

## Problems of the Koszider Period in Transdanubia\*

VIKTÓRIA KISS

During the conference on the state of research on the Koszider Period and the newest questions about it, it became clear that by now issues of the determination of the *length of the Koszider Period* and the *Periodization* of the material remains of the cultures of the Period are in the focus of interest. In other words, the questions are: how long was the Koszider Period, how many phases did it have, and what cultures lived in the Koszider 1 and 2 phases? In the case of the tell-building cultures of the central and eastern areas of the Carpathian Basin, establishing phases is enabled by the stratigraphy of settlements. The situation is different in the case of the Incrusted Ware culture in central Transdanubia, where dating the Koszider Period is based partly on indirect data, on cross-dating with the tell-building cultures, the Mad'arovce (Magyarád) culture and Litzenkeramik. Consequently, many different opinions have been expressed regarding the archaeological picture of the Koszider Period in Transdanubia. Below I would like to present data on two major issues: on the dating of the final phase of the Incrusted Ware culture and related Transdanubian material, and on its relationship with the earliest Tumulus Grave population.

### *Koszider Period assemblages of the Incrusted Ware culture*

In the Middle Bronze Age (according to Hungarian terminology)<sup>1</sup>, Transdanubia was occupied by the culture of Incrusted Ware, the material of which may be divided into two Periods on the territory of the northern and southern groups (Kiss 2001; 2002, 482, 484, Abb. 8). By now research has demonstrated its survival into the Koszider Period,<sup>2</sup> during the last decades the characteristics of the material dated to this latest phase – distinguished within the younger Period of the culture – were defined in the works of I. Torma, É. Vadász, G. Vékony, T. Kovács and Sz. Honti. With the help of a few assemblages containing Koszider type metal artefacts (e.g. Esztergom–Vár u., Mosonszentmiklós–Jánosházapuszta, grave 29,

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1 On correlating the chronology of Transdanubian Incrusted Ware and the Central European Bronze Age see Lippert 1999, Tab. 2; Kiss 2002, Abb. 8 and Ann. 10.

2 Previously there were two different theories about the end of the culture. According to some scholars, the independent life of the culture of Incrusted Ware was terminated at the end of Middle Bronze Age 2, as demonstrated by the burial of Tolnanémedi type hoards (Bóna 1992a, 34, 41–42: chronological table; for a review with literature see Kiss 2000, 24). The other theory tried to prove the survival of Incrusted Ware into the Koszider Period (RBB1). This phase, however, was not easy to fill with finds (Kemenczei 1968, 160–162; Veliačik 1972, 222; Kovács 1975a, 299: the assemblages of Siófok and Csúza cannot be used as evidence for a contact between the Incrusted Ware and Tumulus Grave cultures, since there is a greater chronological distance between the assemblages in question at both sites!). For a review of the history of research leading to the recognition of the Koszider phase of the culture of Incrusted Ware and the now entrenched concept of the Koszider Period see Vékony 2000b, 174–176.

Veszprém–Bajcsy-Zsilinszky u.),<sup>3</sup> the definition of late ceramic forms (*Fig. 1*) became possible at other sites without bronze objects as well, primarily in the north Transdanubian group (Torma 1976; V. Vadász 1986, 27–28; Kovács 1988a, 126–128; Honti 1994a; 1994b; Kovács 1994a; 1994b; Torma 1996, 46; Kiss 1997). At Süttő–Nagysáncstető, a closed settlement layer of the Period was excavated as well (V. Vadász–Vékony 1978, 64–65; V. Vadász–Vékony 1982; Vékony 1988; Vékony 2000b, 178–180), the material, however, is still unpublished. The dating of the *late phase of the culture of Incrusted Ware* into the Koszider Period is also supported by imported Transdanubian Incrusted Ware in the uppermost, Koszider Period strata of tell settlements in the central and eastern Carpathian Basin (*Fig. 2:1–6*), in graves of similar age (Lőrinczy–Trogmayer 1995; Kiss 1998, 167, Pl. 5–7; P. Fischl–Kiss–Kulcsár 1999, 116–119) and in the assemblages of the late Mad'arovce culture (Kiss 2000, 22–23; 2002, 485–485).

A characteristic vessel shape of the late phase in the north Transdanubian group (for details see Kovács 1994a; 1994b; Honti 1994a; 1994b) is the small jar with inclining rim (*Fig. 1:1–3*). The so-called Csór type cup with lentoid body – previously considered as a characteristic form of the Szeremle culture – is also a feature of this late phase. It appears at a few sites in northern Transdanubia (Csór: Bóna 1975, Taf. 243, on the right; Veszprém–Várhegy: Csányi 1978, Fig. 12:13), but was more popular in the south (*Fig. 1:12.17*). Its dating is also supported by imported exemplars found at the sites of the tell-building cultures of the Great Hungarian Plain (P. Fischl–Kiss–Kulcsár 1999, 115–116). Another chronologically important trait of the late phase is the series of triangles usually decorating the rim (so-called ‘flame motif’) in the area of both the north (Honti 1994a, 7; *Fig. 1:4.6–7.9*) and the south Transdanubian group: e.g. from Siklós–Kórház, Szebény–Paperdő (*Fig. 1:14.16*). Finds of the late phase of the Incrusted Ware can be found on the territory of the north Transdanubian group at the following sites (from the north to the south; *Fig. 4*): Patince (Pátpusztá; Dušek 1960), Iža (Izsa–Örök; Dušek 1969), Chľaba (Helemba; Veliačik 1972), Dunaalmás (Patay 1938, Pl. VII. 1–4; Bóna 1975, Taf. 208.1–15; V. Vadász 1986, 27–29; Kovács 1994a, 123),<sup>4</sup> Esztergom (Torma 1976), Süttő–Nagysáncstető (Vékony 2000b, 178–80), Süttő–Hosszúvölgy (Kovács 1988a),<sup>5</sup> Szőny–Nagymagtár (Bóna 1975, Taf. 206.1–16, Taf. 207),<sup>6</sup> Mosonszentmiklós–Jánosházapuszta (e.g. grave 29: Uzsoki 1959, Pls. IV:6, V:10; Uzsoki 1963, 18–19, Pls. 1:1, 4:15, 8:5–6, 12:1–2, 13:4), Csór–Merítőpuszta (Bóna 1975, Taf. 243), Veszprém–Bajcsy-Zsilinszky u. (Kovács 1994a, *Fig. 123:3–4*; *Fig. 1:2–4.10–11*), Veszprém–Kossuth L. u. (Kiss 1997, Figs. 1–4, 5:1–2; *Fig. 1:1.6*), Papkeszi–Felső major (Éri *et al.* 1969, 170 Nr. 39/4; *Fig. 1:7*),<sup>7</sup> Balatongyörök–Becemajor (Bakay–Kalicz–Sági 1966, 39 Nr. 6/9, Pl. 9:5–18; *Fig. 1:5.8–9*), Somogyvár–Kupavárhegy (Honti 1994a, Pls. I–V, VI:1–11), Somogyacsa (Honti 1994a, Pl. VI:12–13). Among the stray finds found during a survey near Komlósd we find both north and south Transdanubian incrusted pottery, some of them decorated with motifs characteristic for the late phase (Honti 1994b, 176, Abb. 3.4). Csór type cups or its versions were found – among others – at the following sites in the territory of the south Transdanubian group: Medina (Bándi–Kovács 1969–70, 100, Pl. VI:1), Harc (Wosinsky 1904, 44, Pl. LIX:10–11; Bándi–Kovács 1969–70, 98, Pl. I:6–8.10), Dunaszekcső (Bándi–Kovács 1969–70, Pl. I:1; Ecsedy 1984, 96, *Fig. 12–14*), Szebény–Paperdő (Bándi–F. Petres–Maráz 1979, 93; *Fig. 1:15*),

3 Veszprém–Bajcsy-Zsilinszky u.: Wetzleinsdorf type pin and flanged axe (Kovács 1994a, Fig. 3.); Esztergom–Vár u. and Mosonszentmiklós–Jánosházapuszta, grave 29: biconical headed pins with loop (Torma 1976, Taf. 9.5; Uzsoki 1963, Pl. 4:15). Similar objects do not appear in Tolnanémedi type hoards.

4 Among the Incrusted Ware stray finds from Dunaalmás (for details see V. Vadász 1986, 24), those dated to the Koszider Period on typological grounds were connected to a stray dagger with trapezoid butt and a bronze pin by T. Kovács (Kovács 1977, 41–44, Fig. 4:5–6). According to É. Vadász, the bronze objects do not necessarily come from the Incrusted Ware graves, they may have belonged to a Dolný Peter type cemetery (V. Vadász 1986, note 8).

5 The published pit profiles from Süttő–Hosszúvölgy (Kovács 1988a, Abb. 1a) contradict the assumption (proposed by Vékony 2000b, 179; see also Kisné Cseh 1999, 67) that the layers of Hosszúvölgy only ‘slipped off’ from Nagysáncstető!

6 We know only stray finds from the site, since the closed grave assemblages (V. Vadász–Vékony 1978, note 106.) are still unpublished (Kisné Cseh [1999, 44] mentions 13 graves, V. Vadász [1986, 27] 15 graves). É. V. Vadász dated the unpublished grave from Szőny–Cecília to this late phase as well (V. Vadász 1986, 27–28, note 50.).

7 Gy. Rhé excavated three graves at the site in 1935 (Éri *et al.* 1969, 170; Kiss 1996, 69). The bowl published here (VBM inv. nr. 55.24.2) was delivered to the Laczkó Dezső Museum together with the closed graves assemblages, but received a different inventory number; it is probably a stray find from the site.

Lánycsók (Ecsedy 1979, 96, 98, XI. t. 2,4; Foltiny 1987, fig. 2:3; Šimić 2000, 125; *Fig. 1:17*), Siklós-Téglagyár, grave 3 (Bándi-Zoffmann 1996, 51–52, Pl. XIII:1; Bándi-F. Petres-Maráz 1979, 102; *Fig. 1:12–13*), Batina (Kiskőszeg; Bándi-Kovács 1969–70, Pl. XI:2–3; Foltiny 1987, Abb. 2.3; Šimić 2000, 125), Darda (Dárda; Foltiny 1987, Abb. 2.5; Šimić 2000, 127, T.5.1/1), Dalj (Dálya; Šimić 2000, 113, T.5.2/1,3).

*The less well-known neighbours of the Incrusted Ware culture in the Koszider Period:  
the Veteřov culture and Litzenkeramik*

The eastern (Vatya) and the northern (Maďarovce) neighbours of the Koszider phase of the Incrusted Ware culture are fairly well known. The finds of the western neighbour, the Gáta-Wieselburg culture, disappear after Middle Bronze Age 2 (Bóna 1975, 247–248; 1992a, 34). The survival of this population was suggested based on a few uncertain data from Burgenland: the graves of Oggau and Mannersdorf containing Koszider Period bronze jewellery, but no pottery, were dated to the latest phase of the culture (Neugebauer 1994b, 61). According to Benkovsky-Pivovarová's observations, the distribution of the Wieselburg culture does not overlap with that of Litzenkeramik<sup>8</sup> (for more detail see below), thus the two populations lived probably at the same time, beside each other (Benkovsky-Pivovarová 1972, 209, Abb. 9; 1981a, 33, Taf. 4).<sup>9</sup> The sites of the earliest group of the Tumulus Grave culture, the so-called Mistelbach-Regelsbrunn type, located south of the Danube, however, do show an overlap with the Litzenkeramik distribution, indicating a chronological difference. Benkovsky-Pivovarová dated the Mistelbach-Regelsbrunn type material to the Koszider Period. In the same Period, north of the Danube (in Moravia and Lower Austria) we find the Veteřov culture (Benkovsky-Pivovarová 1976a, 348–349, Abb. 5; 1976b, Abb. 3). Thanks to J.-W. Neugebauer's work, it has become clear that the sites of the Veteřov culture can be found south of the Danube as well (Neugebauer 1977a; 1979b). In connection with this, Z. Benkovsky-Pivovarová suggested that on the border between the Early and Middle Bronze Ages, the area of the Wieselburg culture was probably occupied by the 'Maďarovce-Veteřov-Böheimkirchen' complex during its southward expansion (Benkovsky-Pivovarová 1981a, 34–35). T. Kovács, in knowledge of the above-mentioned data from eastern Austria, established that the exact definition of the population of the region in the Koszider Period is made difficult by the fact that the distribution of Litzenkeramik and the Mistelbach-Regelsbrunn type cover each other. Thus – although the material was still scarce – three cultural groups were possible candidates for the cultural definition of the region in the Koszider Period. In his opinion, after considering the results of Hungarian research (Patay 1938, 68–69; Mithay 1942, 12–14), in the Koszider Period certain parts of southwest Slovakia, northeast Austria and north Transdanubia were occupied by a population, whose material culture can be identified with the late phase of the Maďarovce culture. The features alien to the Slovakian area are the result of western influences (by the Veteřov culture, north of the Danube and west of the river Morava), while local differences were caused by the differing base populations (Kovács 1984, 382).

8 Previously, Litzenkeramik was dated before the Bronze Age (Pittioni 1934; 1954, 239–246) or to its beginning (Willvonseder 1937, 24–35). The reason for this was that Pittioni connected the technique of its decoration to Corded Ware. Willvonseder compared it to the decoration of the Kisapostag culture (then known as 'Pannonian' Incrusted Ware known from Kisapostag), and considered it its predecessor, and thought to discover in its material the precursor of the characteristic cup of the Wieselburg culture (on the early history of research see Mozsolics 1942, 34–36; Benkovsky-Pivovarová 1972, 198–199). In Hungary, Litzenkeramik (or Guntramsdorf-Drassburg group) was interpreted as the predecessor of the Kisapostag culture: Bóna 1960, 53; Bándi 1972, 41–42; Bóna 1992a, 16; Frühe Bronzezeit III. See also Vékony 2000b, 176.

9 The dating to second half of the Early Bronze Age and the Middle Bronze Age according to the Central European chronological system was accepted due to the observations made by Z. Benkovsky-Pivovarová (1972, 203–208). In this study, I follow the research tradition and use the term 'Litzenkeramik', although J.-W. Neugebauer's experimental research has shown that the Litzen-decoration (contrary to its name) was not done by a textile band, but with thin strings hold close to each other (Neugebauer 1976b). Later on Benkovsky-Pivovarová (1981a, 30) called the decoration 'Litzen-like cord impression', but the name of the culture remained the same.

We have even less information about the Middle Bronze Age population of the more southerly areas of western Transdanubia, the modern Zala County. West of the Kis-Balaton, the Period following the Somogyvár-Vinkovci culture seemed to be a 'Dark Age' lasting until the earliest phase of the Tumulus Grave culture (Kovács 1984, 383; 1994a, 119; see also Horváth 1994, 219, Szőke 1995, 23; Šavel 1996, 20; Bondár 1998, 21–23; Horváth 2000, 13). This hiatus in the cultural sequence was 'filled' by a few researchers by dating the earliest Tumulus Grave assemblages of the county – and a few similar finds from Vas, Győr-Moson-Sopron and Veszprém Counties – to the last phase of the Middle Bronze Age, the Koszider Period (Bóna 1992a, 40; Horváth 1994, 219; Honti 1994a, 11; Kiss 1997, 47; Ilon 1998–99, 258; H. Simon–Horváth 1998–99, 202; Kiss 2000, 27; 2002, 491–492). Thus it seemed an acceptable theory that in the Koszider Period, a new Tumulus Grave population infiltrated the westernmost areas of Transdanubia from the west-northwest, from Lower Austria. This early Tumulus Grave population triggered the migration of the culture of Incrusted Ware (demonstrated by the burial of the Tolnanémedi type hoards); the remaining late Incrusted Ware groups, however, that stayed in place, became the neighbours of the new population – thus their distribution areas complement each other.

When defining the material of the earliest Tumulus Grave groups in Transdanubia, both T. Kovács and G. Vékony assigned great importance to the above-mentioned Litzenkeramik assemblages. According to Kovács, the population using Litzenkeramik can be located in two closed distribution blocks (comp. Benkovsky-Pivovarová 1981a, Taf. 1): in the northwestern (in Burgenland and around Neusiedler See/Lake Fertő) and southern (in the Voivodina: Belegiš culture) part of the Carpathian Basin. Sporadically this type of decoration may be found in other areas of Hungary as well, in the earliest assemblages of the Tumulus Grave culture: at Székesfehérvár–Nyúldomb, Siklós–Téglagyár, Bag, Tiszafüred–Majoroshalom (Kovács 1975a, 312–314; 1984, 383). In 1994, T. Kovács mentioned 35 sites with Litzenkeramik around Neusiedler See, along the river Leitha (Lajta) and scattered in the western half of the Carpathian Basin. Some of these come from closed assemblages, most of them are, however, stray finds and cannot be assigned to any autonomous cultures (Kovács 1994b, 161–162; 1997, 299–300). After reviewing the sites in Komárom County, G. Vékony listed 57 sites belonging to the 'Litzenkeramik, inseparable from the early Tumulus Grave culture' in the wider region of the Carpathian Basin (from Austria, eastern and western Hungary, Slovakia, Croatia, Slovenia and Bosnia-Herzegovina) (Vékony 2000b, 177).

During the last two decades much new information came to light on the widely dispersed Litzenkeramik. Pottery finds with similar decoration have been found in more than 150 sites (see Catalogue). Chronologically less usable stray finds still dominate, a few smaller, closed assemblages, however, are well dated. In order to achieve a better understanding of the type, it might be worth to divide Litzenkeramik assemblages into a few groups, as done previously – based on much less material – by Z. Benkovsky-Pivovarová (1981a).

The collection of Austrian Litzenkeramik sites and their more exact dating was carried out by Z. Benkovsky-Pivovarová (Benkovsky-Pivovarová 1972; 1981a). She interpreted Litzenkeramik sites along the Leitha, and a few more around Salzburg, as an autonomous culture. She distinguished between three chronological phases. The earliest was characterized by wavy Litzen-decoration in assemblages from Slovenia and Croatia, and she noted their connection with the pottery forms and decoration of the Kisapostag culture. Most of the Austrian finds characterized by straight Litzen-decoration were dated to the next phase. Based on the connections of the vessel forms and the mixed assemblages, she dated this phase to the Period of the Veteřov and Maďarovce cultures and the culture of Transdanubian Incrusted Ware. In the youngest material, Litzen-decoration appears in a crinkled-up (*Schnörkelartig*) form, and is usually found in association with early Carpathian Tumulus Grave material in Slovakia and with Belegiš material.<sup>10</sup> Another important milestone of the evaluation of Litzenkeramik and of the clarification of the history of Lower Austria was J.-W. Neugebauer's contribution. He demonstrated that the sites of the

10 Beside these, crinkled-up Litzen-decoration has been found at the settlement of Drassburg (Darufalva), in the 'Südplatz-West' pit (together with straight Litzen band), furthermore at Sikenica (Nagypeszek), Kölesd (Benkovsky-Pivovarová 1972, 208) and Böhleimkirchen (Benkovsky-Pivovarová 1981a, 30).



Veteřov culture appear not only north of the Danube, but south of it, in Austria, as well. Based on the most important site, the settlement of Böhleimkirchen–Hochfeld, he delineated the *Böhleimkirchen group of the Veteřov culture* in southern Lower Austria (Neugebauer 1977a; 1979b). Contrary to Benkovsky-Pivovarová, he did not consider Litzenkeramik an autonomous culture, but an intercultural decoration technique. He published the material of the sites east of the Wienerwald, where Litzenkeramik was found in association with Veteřov pottery (e.g. Guntramsdorf: Neugebauer 1977b; 1978) among the sites of the Veteřov culture. When reviewing the distribution area of the latter culture, however, he did not mention these latter sites:<sup>11</sup> he placed the core area of the Veteřov culture north of the Danube, and the area of the Böhleimkirchen group south of it, between the Dunkelsteinerwald and the Wienerwald (Pittioni 1954, 367, Karte 8; Scheibenreiter 1964, Abb. 1; Schubert 1973, Karte 2; Benkovsky-Pivovarová 1976a, Abb. 5; Neugebauer 1979b, 50; Neugebauer 1994b, 123–125, 133–134, 140). Z. Benkovsky-Pivovarová held on to her opinion on the existence of an autonomous Litzenkeramik group ('Drassburg culture'; see also Neugebauer 1994b, 141, Abb. 4; Urban 2000, 169), although in 1981 she included only the sites in Lower Austria and Burgenland east of the Wienerwald among the sites of the autonomous culture; she regarded the finds around Salzburg, from Böhleimkirchen and Dürnkut, north of the Danube, as imports.<sup>12</sup> As mentioned above in connection with the relative chronology of the group, she observed that the distribution of Litzenkeramik and Wieselburg sites do not overlap – suggesting their contemporaneity. She connected the end of the life of the Litzenkeramik group to the appearance of the Mistelbach-Regelsbrunn type in the Koszider Period, whose distribution area reached that of Litzenkeramik as well, thus was possibly later (Benkovsky-Pivovarová 1972, 209; 1981a, 33, Taf. 2).

Thus, Austrian Litzenkeramik sites can be found almost without exception in Burgenland and Lower Austria. The relationship between this group and the Veteřov culture or its Böhleimkirchen group is, however, still problematic. Litzenkeramik from closed assemblages is usually found in association with Veteřov or Böhleimkirchen material. At the already-mentioned Guntramsdorf, settlement features were uncovered in which the two types were found together (Benkovsky-Pivovarová 1972, Abb. 2; Neugebauer 1977b; 1978). The site of Drassburg (Darufalva) also yielded pits with Litzenkeramik: one of them also contained undecorated Veteřov sherds (Pit I: Fig. 2: 7–8), while from another one (Pit 4), the fragment of a small vessel on four feet has been published (Ulreich 1963, Taf. I–II; Benkovsky-Pivovarová 1972, 201, Abb. 3; 1981a, 31, Abb. 3; Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 13). During the analysis of the Litzen-decorated cup from Dürnkut, the first ever found, J.–W. Neugebauer re-evaluated the associated pottery, previously defined as Aunjetitz ware, as Veteřov material (Neugebauer 1976a; Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 14). It was also Neugebauer, who published the Litzenkeramik pottery from the closed assemblages of the eponymous site of the Böhleimkirchen group (Neugebauer 1977a, Taf. 40.1, Taf. 65.1, 7, Taf. 76.1–3, Taf. 74.1, Taf. 84.1, Taf. 86.1–2). The Litzenkeramik double burial of Grosshöflein–Föllik (Nagyhöflány), excavated by Tömördy, also contained Veteřov fragments<sup>13</sup> (Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 8–12, Fig. 2–5). According to the preserved notes on the context of the latter, it came from the lowermost, 30 cm thick layer of the pit. From this Z. Benkovsky-Pivovarová concluded that the human and animal bodies had been dug into the pit of the Veteřov culture (Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 8–9, 15). G. Vékony, reinterpreting the previously ignored observation of Tömördy – on the 'a Gáta layer cut through' – according to current terminology, reached a similar conclusion: the grave (or rather sacrificial pit?) had been dug into the settlement layer of the Veteřov culture, thus the burial is younger than the

11 On one occasion he referred to a few Veteřov sites east of the Wienerwald (e.g. Schwechat–Wien-Umgebung: Ruttkay 1971) and on the problems of their evaluation (Neugebauer 1977b, Anm. 25). A few, previously published material may be listed among these: Baden–Königshöhle (Ladenbauer–Orel 1954, Taf. IV; here Litzenkeramik as well: Taf. III.3), Weiden am See (Ohrenberger 1957, Taf. I.10–14).

12 The sites mapped around Salzburg (Benkovsky-Pivovarová 1972, Abb. 1) are today assigned to Corded Ware (Schnurkeramik), except for one fragment with Litzen-decoration from Golling (see Catalogue and note 38), which was possibly an import (Benkovsky-Pivovarová 1981a, 33). There is only one – uncertain and unpublished – site in Carinthia (St. Margarethen–Strapelkogel: Ulreich 1963, 88; see Catalogue).

13 These were previously assigned to the Wieselburg culture, see Tömördy 1936; Leeb 1987, 272.

Period of the Veteřov culture (Vékony 2000b, 176–177). From the settlement of Waidendorf–Buhuberg, north of the Danube, B. Hahnel has recently published a few Litzen-decorated sherds from the settlement layer of the Veteřov culture (Hahnel 1988, 71–72). The site of Burg (Pinkaóvár) is mentioned as settlement: here Litzenkeramik sherds were found in a 50 cm thick occupation layer, while the mixed, 10 cm thick layer above it contained medieval pottery and Veteřov sherds (Mitscha–Märheim–Ohrenberger–Saria 1954, 188–89, Taf. 12–13; Benkovsky–Pivovarová 1981a, 30). Similar pottery has been published from Hausstein bei Grünbach (am Schneeberg) as well (Daim–Ruttikay 1981, 40–41, 43, Abb. 12.1–2,4). Thus, the contemporaneity of Litzenkeramik and the Veteřov culture is proven by many assemblages. Despite the uncertain context, the grave of Föllik might support the same, if we assume that the bodies were laid into a pit still in use. Further Litzenkeramik sites in Austria mentioned in various studies can only be treated as stray finds, while the site of Sauerbrunn is mentioned as a settlement (Benkovsky–Pivovarová 1981a, 30) and the amphora of Mattersburg (Nagymarton) could have belonged to a pithos burial (Benkovsky–Pivovarová–Gömöri–Kaus 1982–83, 13, Fig. 16.), but the associated finds do not make a more exact dating possible (for data on the rest of the sites see Catalogue).

Some recently been published data from Vas County may help overcome the difficulties of interpreting the finds from Burgenland and western Hungary. At Sárvár, a settlement with many pits was excavated, and the vessel forms and decoration of its ceramic material display the characteristics of the Veteřov culture. Two fragments bear Litzen-decoration. During a survey to the south, two further sites with similar pottery were discovered near Körmend (Rádóckölked–Felső mező: *Fig. 2:9*; Nagymizdó–Várdomb; Ilon–Rasztovics 2000, 157, No. 56/1, Pl. XXXII:2; No. 56/2, Pl. XLIV:3–5; 184, No. 43/2, Pl. XLV); one of the fragments from here has also Litzen-decoration (*Fig. 2:10*).<sup>14</sup> Based on the material from these sites in Vas County, we may assume that the sites identified between the Wienerwald and the Raab (Rába), where Veteřov and Litzenkeramik finds were found together, should be assigned to the Veteřov culture. A later, more detailed analysis may answer the question whether finds along the Leitha and the Raab belong to the Veteřov culture or to the Böhmeikirchen group. Another question that remains to be answered is whether the use of Litzenkeramik around Neusiedler See is a characteristic of the Veteřov culture; and whether the Litzen-decorated finds reaching the core area of the culture north of the Danube (Waidendorf: Hahnel 1988, 71–72; Neugebauer 1994b, 123; Dürnkut: Neugebauer 1976a) demonstrate contacts with this area. Or are they the imports of a yet unknown group, which reached the area east and west of the Wienerwald and north of the Danube?

The archaeological picture of northern Zala County in the same Period has also become clearer due to a recent discovery. During rescue excavations along the Zalaegerszeg northern bypass (Route 76), at the site of Zalaegerszeg–Ságod–Bekeháza, a settlement with a few pits was discovered.<sup>15</sup> Beside the fragments of characteristic Litzen-decorated cups (*Fig. 2:11–12*) and bowls (Kvassay–Kiss–Bondár 2004, 132, *Fig. 8:8–12*), some pottery was found as well many elements of which may be connected to the Veteřov culture. Parallels for one of the bowl types (*Fig. 2:14.16*) can be found in the classic Veteřov area at Grossweikersdorf (Neugebauer 1975, Taf. 16.6, Taf. 17.7), Poysrunn (Neugebauer 1979a, Abb. 10, Grube 8.4) or Waidendorf (Hahnel 1988, Taf. 23.1). Shapes related to the two-handled ‘amphora’ and hemispherical bowls (*Fig. 2:15.18*) and roughened-spattered and finger-impressed surface generally characteristic for Bekeháza (Kvassay–Kiss–Bondár 2004, 127–133, Fig. 12–15, Fig. 17.) were discovered at Grossweikersdorf (Neugebauer 1975, Taf. 14; Taf. 18, Taf. 25.11) and south of the Danube,

14 The correct interpretation of the finds from Sárvár was given by Gábor Vékony during a conference at Bozsok (3rd National Meeting of Pre-historic Researchers, Szombathely–Bozsok, 7–9 October 2002), where a few sherds from the site were displayed at a small exhibition; I would like to thank him for the personal comment. Two sections of the settlement at Sárvár–Móka and Sárvár–Szaput were unearthed by Péter Kiss and Ildikó Katalin Pap during the rescue excavations along the track of the Sárvár bypass (Route 84). The material of the Bronze Age settlement is the MA thesis topic of László Békei (ELTE, Budapest); I would like to express my gratitude for allowing me to examine the finds. The fragments from Rádóckölked and Nagymizdó were published as Litzenkeramik and Tumulus Grave material (Ilon–Rasztovics 2000, 157, 184).

15 Judit Kvassay’s excavation in 2002. For a detailed publication of Bronze Age finds see Kvassay–Kiss–Bondár 2004, 126–139. I would like to thank J. Kvassay for the possibility to publish the Bronze Age material and Dr. Elisabeth Ruttikay for her help and advice on materials from eastern Austria.

at the settlement of Böheimkirchen (Neugebauer 1977a, Taf. 47.6, Taf. 52–53, Taf. 60.10, Taf. 64.5, Taf. 78.2–3). On the other hand, an analogue of the lug-handled cooking pot (*Fig. 2:17*) is known only from Grosshöflein–Föllik (Benkovsky-Pivovarová 1977, Abb. 2.8). Cs. Száraz recognised Veteřov elements in the stray material from the nearby Zalaszentiván–Kisfaludi Hill as well (Száraz 2002, 517–519, Fig. 1.1, 1.3). This latter site is especially important, since a Koszider Period bronze hoard has also been found here (Bóna 1958, 218, Taf. VI).

Thus, the available data indicate – in accordance with Z. Benkovsky-Pivovarová's suggestions and T. Kovács' opinion reviewed above (Benkovsky-Pivovarová 1981a, 34; Kovács 1984, 382; Benkovsky-Pivovarová 1996, 157)<sup>16</sup> – that the Veteřov culture could have expanded east of the Wienerwald to Lake Fertő, furthermore to the middle of the Répce and Rába valleys as well (till the eastern border of the earlier Wieselburg territory (see Leeb 1987, Abb. 1). Finds north of the river Zala are probably also connected to this cultural group, although the issue needs further investigation. This eastward population movement or cultural influence could have caused the end of the autonomous Wieselburg culture at the end of Middle Bronze Age 2. Grave assemblages in the cemeteries of the Wieselburg culture with Koszider Period bronze objects but no pottery (Oggau, Mannersdorf: Pittioni 1954, Abb. 213–214; Melzer 1984, 241, Abb. 311; Hicke 1987, 63, Abb. 44, Taf. XI, Taf. XV, Taf. XVI, Taf. XXI; Neugebauer 1994a, 61), assigned to the latest phase of the culture are perhaps also the remains of the Veteřov culture. Thus, in the Koszider Period this culture has become an immediate neighbour of the population of the late Incrusted Ware culture (cf. Mosonszentmiklós), occupying the eastern shores of the swamps of the Rába (*Fig. 4*). Presumably this proximity explains the appearance of Litzen-decorated vessels at the sites of the north Transdanubian Incrusted Ware group (Iža, Mosonszentmiklós, Süttő – see below). This same contact is indicated by the late Incrusted Ware sherd found in pit 28 at Böheimkirchen–Hochfeld (together with Litzenkeramik) and the Transdanubian imports from Waiendorf–Buhuberg (Neugebauer 1977a, Taf. 40.1; Hahnel 1988, Taf. 14.6; Taf. 49.7; Taf. 51.1,4; Kiss 2000, 30–31; Kiss 2002, 486, Taf. 6.9–11), furthermore the fragments of an Incrusted Ware jar associated by Veteřov material from the 1947 excavation at Weiden, near Neusiedl am See (Ohrenberger 1957, 58, Taf. I.9–14). The few metal objects known from the region also support a date in the Koszider Period: Z. Benkovsky-Pivovarová published two twisted pin shanks from Grosshöflein III (not from a closed assemblage), and mentions a willow-leaf shaped spearhead with a hose decorated by hatched triangles (Benkovsky-Pivovarová 1977, Abb. 1.4–5; 1981a, 31, Anm. 32). The pair of sickle shaped pins with twisted shank and decorated head from the grave of Ménfőcsanak is from a closed assemblage (Kovács 1997, Abb. 1.1–2), just like the bronze dagger with three rivets and a midrib from one of the pits at Drassburg ('pit Südplatz-West') (Benkovsky-Pivovarová 1972, 201). Similar pieces were discovered in the graves of Dolný Peter as well (Dušek 1969, 57, Abb. 7.1,3, Abb. 10.8).

To continue the analysis of Litzenkeramik, many sites are known where this type of pottery was associated with Transdanubian Incrusted Ware (Vékony 2000b, 178). The settlement at Iža, Slovakia, from which V. Nemejcová-Pavúková published north Transdanubian Incrusted Ware and a Litzen-decorated sherd (Nemejcová-Pavúková 1968, 355–358), may be connected to the cemetery at Iža (Izsa)–Őrök. At the already mentioned cemetery of the north Transdanubian group of Mosonszentmiklós–Jánosházpuszta, in grave 26, an amphora (Uzsoki 1959, 66, Pl. IV:7; 1963, 83, Pl. 14:3) found together with an Incrusted Ware lid was assigned previously to the Wieselburg culture (Uzsoki 1963, 83; Bóna 1975, 249; Leeb 1987, 268, 278), although it seems to belong to Litzenkeramik or the Veteřov culture (comp. Kiss 2000, note 49). G. Vékony mentions a small two-handled vessel with rows of Litzen-decoration on its neck from the uppermost layer of the settlement of the Incrusted Ware culture at

<sup>16</sup> Since the distribution area of the Maďarovce and Veteřov cultures adjoin along the river Morava, near Lake Fertő, and due to the close relationship between the material of these two cultures, many scholars talked about a Maďarovce-Veteřov-Böheimkirchen culture (Benkovsky-Pivovarová 1981a, 34; Stuchlík 1992, 16). Finds of the Veteřov culture may also be found in a few assemblages of the Maďarovce and Early Tumulus Grave cultures (Károlyi 1979–80, 136–138, 149, Figs. 3:1, 4:1; Marton 1996, 250, Pl. 1:8; Károlyi 1996–97, 12, Fig. 3:1, 4; Ilon 1998–99, Stufe I, Fundort 18–20).

Süttő–Nagysáncetető (Vékony 2000b, 180). In southern Transdanubia, Litzen-decorated pottery has been found at the sites of both the northern (Vörs–Kerekerdő, features 44, 224, and 176: Honti 1994a, 8–9; 1994b, 173–175, Abb. 8.4; Somogyvár–Kupavárhegy: Honti 1994b, Abb. 4.4, Abb. 7.6, Abb. 9.1–2; Komlósd: Honti 1994b, Abb. 3.14, Abb. 9.3–6,8) and southern Transdanubian group (Kölesd: Wosinsky 1904, Pl. LVIII:5; Siklós–Téglagyár, grave 3: Bándi–Zoffman 1966, 51–52, Pl. XII:3–7, Pl. XIII:1–7; Bándi–F. Petres–Maráz 1979, 102; Kiss 2004, Fig. 3:4–10). From these, only the finds from the pit at Vörs (Fig. 3:1–5) and the graves at Mosonszentmiklós and Siklós (Fig. 1:12–13, Fig. 3:6) came from closed assemblages. The finds from Somogyvár were found in an occupation layer of the settlement of the Incrusted Ware culture, but without exact stratigraphical position. The situation is similar with regard to the sherds from Kölesd, although the finds presented by Wosinsky from the site all belong to the younger and late phases of the Incrusted Ware culture (Kiss 2002, 488–489). The sherds from Komlósd are surface finds (see above). Based on the inner chronology of the Transdanubian Incrusted Ware culture, Sz. Honti established that the Litzenkeramik from closed assemblages containing Incrusted Ware as well are not the remains of a short Koszider or Early Tumulus Grave Period, but were in use during a longer time-span contemporary with the younger phase of Incrusted Ware (Honti 1994a, 8; Honti 1994b, 174, 177). It is important to note that G. Vékony – based on the stratigraphical observations at Süttö where Litzen-decorated pottery was found in the uppermost settlement layer of the Incrusted Ware culture – dates the same assemblages exclusively to the latest, Koszider Period phase of the Incrusted Ware culture. In his opinion, the typological traits of Incrusted Ware are not suitable for unequivocal dating;<sup>17</sup> it is only the Litzenkeramik characteristic for the Koszider Period, which has a chronological significance (Vékony 2000b, 178). These data are complemented by some recent finds from the settlement at Kaposvár–Route 61/site 1. In this large, multi-Period settlement of the Incrusted Ware culture (Somogyi 2000; Kiss–Somogyi 2004) younger north Transdanubian Incrusted Ware and Litzenkeramik were found together in closed assemblages (pits 322 and 343: Fig. 3:7–13).<sup>18</sup> The bowl fragment with ‘panel’ decoration (Fig. 3:13) and all the other Incrusted Ware sherds from pit 343 are the remains of the younger, and not the latest, phase (comp. the similar date – ‘classical phase’ – of the bowl from Vörs: Honti 1994b, 174, Abb. 8.1). Another important data on the chronology of Litzenkeramik is provided by the fragment found in a pit at Balatonmagyaród–Hídvépuszta together with the pottery of the Late Kisapostag – Early Incrusted Ware phase.<sup>19</sup>

There are finds that can be connected to Litzenkeramik from Croatia and Slovenia (even Bosnia-Herzegovina – see below) as well (Majnarić-Pandžić 1976a; 1976b; Teržan 1983, Abb. 4; Gabrovec 1983, 24–26; Vékony 2000b, 177; Martinec 2002; Kiss 2002, note 73.). In Croatia, Litzenkeramik often appears together with Transdanubian Incrusted Ware. Such assemblages were found south of Zala County, slightly to the southeast of the confluence of the rivers Drava and Mura, around Koprivnica, mixed with north Transdanubian Incrusted Ware (Koprovnički Ivanec–Piškornica), furthermore in the southern part of the Drava–Sava interfluvium, mixed with south Transdanubian Incrusted Ware (see Catalogue: Gradac–Pleternički, Grabrovac, Podgorač, Vučjak Feričanački). At the settlement of Koprivnički Ivanec many pits contained the mixed material of both cultures (Marković 1981b, 196–198, 213, Pl. 4, T. 6–7; 1982b, 245–248, 263, Pl. 5–6, T. 4–5). At Podgorač, two pits contained sherds of late south Transdanubian Incrusted Ware (a Csór type cup: Majnarić-Pandžić 1976b, Taf. V.5) and Litzenkeramik (Majnarić-Pandžić 1973, 25–26; 1976b, 98–100, Taf. I, Taf. III–V). At Grabrovac, following earlier stray finds (Pavlović 1984, 53–60, Pl. 3.4–9, Pl. 4–5), a larger amount of the material of both cultures were found in a pit in 1997. Fragments of at least fifteen high-quality younger and late south Transdanubian

17 With regard to phase 4 at Süttö: ‘We do not have enough data to define the characteristic traits of this phase. We can only say that this Period was characterized by the lack of Tokod and so-called south Transdanubian type material’ (Vékony 2000b, 180).

18 North Transdanubian Incrusted Ware and Litzenkeramik have already been found in the area of Kaposvár (Megyei Tanács kertészete, pit 1) by I. Ecsedy: RRM inv. no. 75.79.1–2. I would like to thank Szilvia Honti for allowing me to examine this unpublished material.

19 I would like to thank Szilvia Honti and László Horváth for allowing me to examine this unpublished material. On the dating of the Late Kisapostag – Early Incrusted Ware transitional phase see Kiss 2002, 479.



Incrusted Ware vessels (*Fig. 3:15–17*; see especially the ‘flame motif’ characteristic for the late phase: *Fig. 3:15*) were discovered (Martinec 2002, T. V–VIII). Beside these mixed assemblages, many Croatian sites yielded Litzenkeramik on its own: along the river Drava in the Velika Cave (Velika pećina/Mačkova spilja), in the Vindija Cave (Šimek 1975; Šimek–Kurtanjek–Paunović 2002, 50), at Višnjica and Koprivnica–Cerine III (Marković 1993, T. 3; 1993–94, 109, T. 3, T. 4.1–3, T. 9.1–3), furthermore along the Sava at Gušće (Majnarić-Pandžić 1976b, Taf. II.2), Štrbinci and Viškovački Vinogradi (Marković 1984, 22–24, Pl. 5.5–6; see also Catalogue). These latter were dated based on Benkovsky-Pivovarová’s typological phases and the assemblages containing Transdanubian Incrusted Ware as well (Majnarić-Pandžić 1976a; 1976b; Marković 1984, 22–24; Šimić 1993; 2000, 105–106; Marković 2003). The earliest finds are dated to the Period of the Kisapostag culture based on the wavy Litzen-bands. Afterwards, the development is continuous through the phase of straight Litzen-band until the Belegiš culture, which used crinkled-up Litzen-bands. N. Majnarić-Pandžić, due to the small number of finds and their mixing with material of other cultures, did not separate the sites with Litzen-decorated pottery as an autonomous archaeological culture (Majnarić-Pandžić 1976b, 101). Recently, however, many scholars have delineated a separate Litzenkeramik cultural area in Croatia, between the Drava and the Sava, around Zagreb and Osijek, perhaps even reaching in to southern Transdanubia (Marković 1988–89, 415–417, Abb. 4; 1990, 48; Majnarić-Pandžić 1998, 177, Map II; Marković 2003). The emergence of the Belegiš culture can be explained by the blending of the Croatian Litzenkeramik and the westwards moving Slavonian-Syrmian group of the Vatin culture (for more detail see: Majnarić-Pandžić 1984; Benkovsky-Pivovarová 1992, 344, Abb. 3; Tasić 2001, 314; P. Fischl–Kiss 2002, 136).<sup>20</sup> Based on the fairly rich material from Grabrovac, Martinec established that the shape and quality of the vessels differs significantly from the usual Litzenkeramik, and the Litzen-decoration is not typical either. He considered these vessels rather as imitations, and assigned the site to the Transdanubian Incrusted Ware culture (Martinec 2002, 287–293, 300).

Although it is not easy to form an opinion on the cultural affiliation of the area between the Drava and the Sava based on these mixed assemblages, thanks to the review of Incrusted Ware finds in Croatia (Šimić 2000, Map 4.1) and our enhanced knowledge of the distribution of Litzenkeramik sites, a new picture can be delineated, according to which the Incrusted Ware culture crossed the Drava only at its confluence with the Danube. Thus, the area between the Drava and the Sava – except for its easternmost part, where we may reckon with a smaller Transdanubian Incrusted Ware group and the westwards-moving Vatin culture (comp. P. Fischl–Kiss 2002, 136) – we may assume the presence of the autonomous Litzenkeramik group as delineated by N. Majnarić-Pandžić and Z. Marković. The existence of such a separate group is demonstrated, beside the Litzenkeramik sites, by the presence of a coarse ware, which – although is similar to that of neighbouring groups – shows distinct characteristics (Martinec 2002, T. IX–X; *Fig. 3:20–22*).<sup>21</sup> All this does not exclude the possibility that in certain parts of the Drava–Sava interfluvium a symbiosis formed with the population of the Transdanubian Incrusted Ware culture, similarly to the one demonstrated in southwestern Slovakia between the Maďarovce and the Incrusted Ware cultures (for a review see: Kiss 2002, 485). It is clear from the mixed assemblages that the Croatian Litzenkeramik and the Transdanubian Incrusted Ware were contemporaneous during the younger (Koprivnički Ivanec–Piškornica) and late phases (Grabrovac, Podgorac) of the latter. A relationship existed in previous phases as well: beside the finds from Balatonmagyaród mentioned above, older Transdanubian Incrusted Ware<sup>22</sup> was discovered in association with Litzenkeramik at Vratnec as well (Marković 1997, T. 1–2). The typo-chronology of the Incrusted Ware, however, contradicts the Periodi-

20 The emergence of the Belegiš culture, thus the meeting of the Litzenkeramik and the western group of the Vatin culture happened in north-east Croatia. As a consequence, in the case of a few Litzen-decorated vessels found in this region it is difficult to decide whether it should be assigned to Litzenkeramik or the Belegiš culture: Dalj–Livadice, Erdut, Klisa–Ekonomija (Šimić 1993, 132; 2000, 106–107; Martinec 2002, 278). On the problem see also Vékony 2000b, 177.

21 Similar coarse ware has recently been found in Slovenia (Murska Sobota; Guštin 2005), demonstrating again the existence of an autonomous Litzenkeramik group in Croatia and Slovenia.

22 On the dating of the older phase of Transdanubian Incrusted Ware see Kiss 2002, 482.

zation of Litzenkeramik based exclusively on the form of the Litzen-decoration (Honti 1994a, 8, 10; 1994b, 174–175). At Vörs, Koprivnički Ivanec and Grabrovac both wavy and straight Litzen-patterns were associated with Incrusted Ware, and the same can be said about the material from Vratnec, which contained older Incrusted Ware. The close relationship between neighbouring cultures explains the presence of Transdanubian Incrusted Ware imports south of the Drava and Litzenkeramik imports in southern Transdanubia (e.g. from pits at Vörs–Kerékerdő and Kaposvár, associated with younger, at Somogyvár with late, north Transdanubian Incrusted Ware, furthermore at Siklós–Téglagyár, from a grave of the late phase of the south Transdanubian Incrusted Ware group; *Fig. 3:4–6.8–9.11–12*). Litzenkeramik found its way into the southern areas of the Vátya culture as well, perhaps through mediation of late Incrusted Ware groups: see e.g. the Litzen-decorated (or imitated?) cup from pit I/O at Igar–Vámpusztá–Galástya, found together with Vátya–Koszider pottery and late Transdanubian Incrusted Ware (Kovács 1982, Abb. 5; *Fig. 2:3–6*). Consequently, and in agreement with Szilvia Honti's results (Honti 1994a, 8; 1994b, 174, 177), the dating of the Litzenkeramik found within the distribution area of the Incrusted Ware culture through the internal Periodization of Incrusted Ware is acceptable. Thus, finds with Litzen-decoration are not only the 'fingerprints' of the Koszider Period, but are the result of a longer relationship.

Litzenkeramik finds in Slovenia are distributed in two distinct groups: around Maribor and Ljubljana (Korošec 1957; Gabrovac 1983, 24, 26–27; Dular 1999, 83, Abb. 2; Strmnčik–Gulić 2001b, 104, Fig. 5–6). During the most recent highway rescue excavation, a few settlements with Litzenkeramik material from closed, unmixed context were found at Murska Sobota–Nova tabla, Ruhna Vas/Bela Cerkev, Slivnica (for further sites see Catalogue and Guštin–Tiefengraber 2001, Pl. 2; Tiefengraber 2001, 80; Strmnčik–Gulić 2001b; Djurić–Prešeren–Grosman 2003; Guštin 2005).<sup>23</sup> In this area, Litzenkeramik is dated to the Ig C phase, following the Ljubljana culture, although the process of its formation is not clear yet (Parzinger 1983, 45, Tab. 4; Dular 1999, 83–84).

Based on the meagre finds from the northern neighbourhood, southern Burgenland, south-eastern Styria and Carinthia (Modrijan 1973a, 133–134; 1973b, 142; Drescher-Schneider–Wick 2001, 18–20, 23; Herbert–Wenedig 2001, 41), a similar group has been taking shape in recent times (Brunn–St. Michael, Mixnitz, Oberpurkla, Raababerg bei Graz, Riegersburg, Wildon: Herbert 1987; Kramer 1989; Herbert 1991; Kramer 1996, 9; Lippert 1999, 345, Karte 2, Tab. 3; 2001; Lehner–Tiefengraber 2003).

The Litzenkeramik found to the south, in southern Bosnia-Herzegovina (at nine sites along the river Neretva), has been assigned to the middle phase of the recently defined Posušje culture (Sovići phase). Similar sherds from northern Herzegovina and Central Bosnia (Pod, Gornja Tuzla) have been interpreted as imports of this culture (Čović 1989, 107, T. X–XI).<sup>24</sup> Litzenkeramik reached Cres Island (Petrić 1980, 42, T. XVI.1) near the Istrian peninsula as well, either from the Neretva valley or the Slovenian distribution area around Ljubljana.

The Slovakian finds were reviewed by Z. Benkovsky-Pivovarová (Benkovsky-Pivovarová 1981a, Anm. 3; 1992, 343), her collection has recently been complemented by O. Ožďani (Ožďani 1998). All the 30 sites from Slovakia known so far are located in the southwestern part of the country. Litzen-decorated finds been found in association with late Maďarovce (end of RBA2–RBB1) material (e.g. Veselé) and in the assemblages of the Dolný Peter phase (RBB1) (e.g. Budmerice, Dolný Peter, Mužla, Šturovo), consequently the interpretation of the stray finds from the region (Abraham, Blatné, Sikenica, Vištuk – see Catalogue) cannot be straightforward. Furthermore, Litzen-decorated sherds have also been found at the settlements of the Füzesabony (Otomani) culture in eastern Slovakia, at Včelince (Méhi) and Nižná Mišľa–Várhegy (Alsómislye) (Ožďani 1998, Abb. 1, Abb. 3–4). It has been an object of serious

23 I would like to thank Prof. Mitja Guštin for the opportunity to have a look at the illustrations of the material from the settlement before publication. Beside Litzen-decorated vessels from closed assemblages from pits, a large amount of utilitarian ware, similar to those from Grabrovac, was discovered as well.

24 The Sovići phase of the Posušje culture (using Litzen-decoration) has been dated to the same Period as Phase 3 of the Cetina culture (RBA2–BB1) based on imports and metal objects (Marović–Čović 1983, 196–200, 209, 214; Čović 1989, 107, Pl. 16).

consideration in Slovakia as well, that this, neither culturally nor chronologically uniform, material should not be regarded as an autonomous culture or as imports, but rather as an intercultural style, independent of local archaeological units.

Here we have to mention those assemblages from northwest Hungary which contain only Litzenkeramik material, thus their cultural affiliation is uncertain. These remains may be connected to the above reviewed late phase of the Veteřov and Maďarovce cultures, or rather with the Dolný Peter phase. T. Kovács mentioned parallels to the two-handled vessel from a cremation grave at Ménfőcsanak (Kovács 1997, 297–299, Abb. 1.1–4), containing Litzen-decorated pottery and a pair of sickle shaped pins as well, from the area of the Böhleimkirchen group. The other graves excavated here (Ilon 1998–99, 256, Fig. 10; Egry 2004) suggest, however, that we are dealing with a biritual cemetery similar to that of Dolný Peter. The stray Litzen-decorated vessels from Koroncó–Bábota (Mithay 1942, 7, Pls. III:10, IV:1), together with other stray finds from the same place (Mithay 1942, 8–9, 11, Pls. III:9, V:7, VIII:7) and a grave assemblage (area C, grave 2: Mithay 1942, 13, Pl. XII:5–6) may also be assigned to the Maďarovce-Veteřov-Böhleimkirchen culture, but it cannot be excluded that they belong to the Dolný Peter phase. The exact date of a few other Litzen-decorated vessels, found alone, without other finds (Rábacsécsény: Mithay 1942, Pl. III:8; Kovács 1997, Abb. 1.5; Sopron: Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 5–8, Fig. 1), the unpublished settlement material from Szomód (today called Tata–Ferencmajor: V. Vadász–Vékony 1978, 61, note 90.; Vékony 1988, 74; 2000b, 177) and a few other stray finds from the region (Csolnok, Keszölc: Ilon 1998–99, 257; Vékony 2000b, 177), is also insecure.

The problem of the relationships between the various assemblages of this region, that is, between the Maďarovce culture and the Dolný Peter horizon, has still not been resolved satisfactorily. The issue is connected to the emergence of the Carpathian Tumulus Grave culture and its – still unclear – relationship with the Tumulus Grave culture of the Middle Danube region (see Kovács 1975a, 298–303; Csányi 1980, 153–154; Benkovsky-Pivovarová 1981a, 378, 381; 1981b; Kovács 1984, 378, 381; Benkovsky-Pivovarová 1985, 88; Kőszegi 1988, 16; Vékony 1988, 74; Benkovsky-Pivovarová 1996, 157; Kovács 1997, 299–300; Ilon 1998–99, 258). Despite the insecure context of many finds, the closed assemblages allow us to establish that Litzen-decorated pottery appears in the northwestern-northern region of the Carpathian Basin also in assemblages later than the cultures of the Hungarian Middle Bronze Age (the later phase of the Early Bronze Age according to Central European terminology, RBA2). These were found in association with the already mentioned sites of the Dolný Peter phase, and of the east Austrian (Deutschkreutz, Pitten: Benkovsky-Pivovarová 1981a, 30, 32–33; Hampl–Kechler–Benkovsky-Pivovarová 1981, Taf. 205.12–13, Taf. 218.12; Benkovsky-Pivovarová 1992, 343; Kovács 1994a, 123; most recently Müllendorf, Purbach: see Catalogue<sup>25</sup>) and Hungarian (Székesfehérvár–Nyúldomb, Siklós–Téglagyár, Bag, Tiszafüred–Majoroshalom: Kovács 1975a, 312–314; 1975b, 13, Pl. 5.3; 1984, 383; Vékony 2000b, 117; Pomáz: see Catalogue) early Tumulus Grave culture.

Having reviewed the difficulties of dating Litzen-decorated pottery, we may establish the following. Many scholars agree (Benkovsky-Pivovarová 1981a, 32; Marković 1984, 23; 1988–89, 417–418, Abb. 3; 1990, 48; phase Ia; Martinec 2002, 282) that based on the wavy line pattern and the connection with the coarse ware of the Kisapostag culture, the earliest assemblages (RBA1) are those from Slovenia (Ig, Nortanje Gorice) and from a few sites in northwestern Croatia (Mačkova spilja/Velika pećina, Vindija Cave, Sv. Petar Ludbreški–Ivanac).<sup>26</sup> Due to the large amount of only partly published finds, however, the typology of Litzenkeramik shapes has not been worked out properly yet and, as we could see, the chronology based on the form of the Litzen-band cannot be held up against close scrutiny. In lack of

25 The Litzen-decorated pottery from Müllendorf and Purbach, Burgenland, there associated with Mistelbach-Regelsbrunn type material, was analysed by C. Ranseder (Ranseder 1990). I would like to thank Prof. Gerhard Trnka for drawing my attention to, and giving permission to study, this unpublished thesis.

26 Based on some of the traits of this material, and origin in, or a common origin with, the Kisapostag culture has also been suggested. The latter might be supported by the vessel of an inhumation grave at St. Salvador bei Friesach, Carinthia, showing some characteristics of the Kisapostag material (Pittioni 1954, Abb. 171; Benkovsky-Pivovarová 1972, 200; Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 16–17, Fig. 8).

detailed analyses the area of the formation of groups using similar decorative technique can only be delineated tentatively somewhere along the Upper Sava and Middle Drava and Mura.

Litzenkeramik groups surviving in the next phase (Koprivnica–Cérine III) made their appearance to the east, in northeast Croatia as well (Grabrovac, Podgorač). These younger Litzenkeramik sites in Croatia are contemporary with Hungarian Middle Bronze Age 1–2 (RBA2) as shown by the older (RBA2a) and younger Transdanubian Incrusted Ware (RBA2b–c) they are found in association with both locally and in southern Transdanubia. As late Transdanubian Incrusted Ware import demonstrate, Croatian Litzenkeramik (Marković 1988–89, 419, Abb. 4) survives in the last phase of the Middle Bronze Age, in the Koszider Period as well (RBB1; for the sites of this Period see Fig. 4). The influence of this decorative technique can be felt in Bosnia-Herzegovina as well.

Litzenkeramik was transmitted to the north from the Sava and Mur (Mura) region (including southeastern Styria as well) along the tributaries of the Mur and the Raab. Litzen-decorated pottery found in association with north Transdanubian Incrusted Ware and Veteřov material along the Leitha and the Raab can probably be dated to the Koszider Period as well. The southern border of the group of the Mad'arovce–Veteřov–Böheimkirchen culture is indicated by the finds near Zalaegerszeg, and the frequent Litzenkeramik finds from the sites of the group might indicate contacts with the yet little known neighbouring Litzenkeramik group in Slovenia and southeastern Styria (see Murska Sobota, Wildon), the more exact definition of which will be the task of future research.

Litzenkeramik from the sites of the Dolný Peter phase and the Mistelbach–Regelsbrunn type may be connected – in a yet unknown way – to the above-mentioned groups in north and south Burgenland. We will see more clearly once the finds from e.g. the settlements of Drassburg and Wildon, furthermore the already mentioned sites along the Raab are fully published.<sup>27</sup>

#### *The earliest phase of the Tumulus Grave culture in the western Carpathian Basin*

Research lists among the earliest finds of the Tumulus Grave culture in western Hungary the assemblages of Kéthely in Somogy County (Draveczy 1970, Pl. XXV–XXVI) and Hegykő in Győr-Moson-Sopron County. Their interpretation is uncertain, pottery deposition and burial have both been suggested (Kovács 1994b, 162; Ilon 1998–99). From Veszprém County G. Ilon has recently published the three most characteristic assemblages of the seven graves from Nagydém–Középrépuszta (Ilon 1998–99). During the last decade, closed assemblages of the Period have been found in Zala County as well: a settlement with 37 pits was excavated at Esztergályhorváti–Alsóbáránpuszt; at site No. II in Gellénháza–Budai szer one pit contained early Tumulus Grave material (Horváth 1994; 1996; H. Simon–Horváth 1998–99). Finds of the early Tumulus Grave Period were also discovered at the already mentioned site of Zalaszentiván (Szárász 2002, 520–521, Fig. 6.3–5, Fig. 7.1–2).<sup>28</sup> The settlement at Hegyfalu can also be dated to this Period (Károlyi 1979–80). An important, new settlement was excavated at Ordacsehi–Bugaszeg, along the path of highway M7 (Fig. 5:1–13).<sup>29</sup>

Exact analogues for the pottery from these assemblages are known from the partly published material of the *Mistelbach–Regelsbrunn phase* (ältere Hügelgraberzeit) in Austria. Beside old finds (graves from Regelsbrunn and Wetzleinsdorf: Neugebauer 1994b, Abb. 81; Mistelbach–Rollerfund, pottery deposition: Benkovsky–Pivovarová 1976b), the settlement of Mannersdorf (Neugebauer 1980; 1994b, Abb.

27 The analysis of the material of the settlement at Drassburg (Mossler 1943) remained unpublished. The pits yielded pottery decorated with wavy, straight (Benkovsky–Pivovarová 1981a, 31) and crinkled-up Litzen-bands as well (Benkovsky–Pivovarová 1972, 208). I would like to thank Prof. Gerhard Trnka for making G. Mossler's and A. Ohrenberger's unpublished dissertations and J. Obereder's unpublished MA thesis available for me.

28 It is possible that the cups assigned to the Veteřov culture on typological grounds (Szárász 2002, 517–519, Fig. 1.1,3) are in fact the remains of the Tumulus Grave culture as well (comp. Mannersdorf: Neugebauer 1980, Abb. 6.1, Abb. 22.92).

29 Beside finds from other Periods, a small settlement of the Tumulus Grave culture was found at the more than 12 ha large site in 2001 and 2003 (see Honti *et al.* 2002, 15–20; 2004, 41).



80) and a few graves from Franzhausen II (Neugebauer 1994b, 158, Abb. 82), we may list here the oldest graves from the cemetery at Pitten as well (Hampl–Kechler–Benkovsky–Pivovarová 1981; Benkovsky–Pivovarová 1985, 93, Abb. 11; Neugebauer 1993, 94; 1994b, 152). The settlement finds of Zala County, Ordacsehi and Mannersdorf (*Fig. 5:14–22*) and the assemblage from Hegykő are typologically almost identical. The vessels of the graves from Nagydém are slightly different – the cause is uncertain yet, the difference might be chronological.

Many different views have been proposed on the chronological relationship between the late phase of the Böhleimkirchen group of the Veteřov culture in Lower Austria (Neugebauer 1994b, 121) and the Mistelbach-Regelsbrunn phase. As we have seen, previously sites of the Veteřov culture were not expected east of the Wienerwald (most recently: Benkovsky–Pivovarová 1995, Abb. 4), and Z. Benkovsky–Pivovarová established the contemporaneity of the Veteřov culture and the Mistelbach-Regelsbrunn type based on their complementary distribution areas (Benkovsky–Pivovarová 1976a, 348–349, Abb. 5; 1976b, 24, Abb. 3). J.-W. Neugebauer reached similar conclusions (Neugebauer 1980). At the same time it was proposed that the origins of the Tumulus Grave culture of the Middle Danube region should be sought in the area of the south Moravian Veteřov culture (Benkovsky–Pivovarová 1976a, 352; Stuchlík 1992, 25; Stuchlík *et al.* 1993, 272–274, 534; Neugebauer 1994b, 145; Benkovsky–Pivovarová 1996, 157). In connection with the Middle Bronze Age graves (according to the Reinecke chronology) of the cemetery of Franzhausen II, Neugebauer described the continuous development of the late Veteřov phase into the early Tumulus Grave Period (Neugebauer 1994a, 86, Abb. 2). Cs. Száraz also suggested a succession of these Periods based on the finds of Zala County (Száraz 2002, 518). When we take into account the above described sites in Burgenland and western Hungary as well, the two distribution areas overlap in the area between the Wienerwald and the river Raab, clearly suggesting that the material of the Veteřov culture and the Mistelbach-Regelsbrunn phase must be assigned to two different, subsequent phases – regardless whether a continuous development of one into the other can be demonstrated.

#### *The question of the chronological correlation of central and western Transdanubian remains*

As a consequence of the above, two chronological phases may be discerned in the western and central part of Transdanubia:

- Phase 1: the late phase of the Veteřov culture and late Transdanubian Incrusted Ware
- Phase 2: Early Tumulus Grave Period (Mistelbach-Regelsbrunn type)

G. Ilon, having examined the distribution of the assemblages of the Maďarovce and Early Tumulus Grave cultures in northwest Hungary, discerned the same two phases (Stages 1 and 2: Ilon 1998–99, 255–258). What is debatable, however, is where to place these two phases in the relative chronological system, and how to correlate them with eastern Transdanubia and the phases of the various archaeological cultures of the central and eastern Carpathian Basin. To put it another way: is Phase 2 dated to the Koszider Period (RBB1) or later (the Post-Koszider Period; RBB2), the beginning of the Late Bronze Age?<sup>30</sup>

The late phase of Transdanubian Incrusted Ware, however, can undoubtedly be dated to the Koszider Period. Following T. Kovács, Z. Benkovsky–Pivovarová and J.-W. Neugebauer, we can date the material of the Maďarovce–Veteřov–Böhleimkirchen culture between the Wienerwald and the Raab to the same Period. In agreement with the results of Croatian research, we may expect the survival of the autonomous Croatian group of Litzenkermaik between the Drava and the Sava into the Koszider Period as well (*Fig. 4*).

The correlation of this material with eastern Transdanubia is helped by late Incrusted Ware imports at the sites of the late Vatyá culture (see the material from Igar) and from the Koszider Period layers of the

30 As Tibor Kovács put it: 'Als »Wasserscheide« in der Kontroverse tritt aber auch heute die Tatsache zutage, dass die sich mit dem Thema beschäftigenden Forscher hinsichtlich des Anfangsdatums der Hügelgräberzeit des Karpatenbeckens und der ethnischen Zugehörigkeit der Bevölkerung der Koszider-Periode im besprochenen Gebiet verschiedener Auffassung sind' (Kovács 1984, 382). See also Bóna 1992a, 35–38. G. Ilon dated Phase 2 to the late Koszider phase (although to RBB2!) (Ilon 1998–99, 258).

settlements of other tell-building cultures (e.g. Túrkeve–Terehalom) (Fig. 2:1–6). Starting from the material of the cemetery at Kelebia (Szeremle–Kelebia type: Kovács 1988b, 158–159; Proto-Szeremle phase: Bóna–Nováki 1982, 69, note 21.; P. Fischl–Kiss–Kulcsár 1999, 114), this same late Incrusted Ware population coexisted with late Vattya, late Perjámos and late Vattina groups along the Danube and in the southern Danube-Tisza interfluvium (Kovács 1988b, 158; Lőrinczy–Trogmayer 1995; P. Fischl–Kiss–Kulcsár 1999, 112, 119; P. Fischl 2000, 37–41; P. Fischl–Kiss 2002, 135).

The *Szeremle* culture in southeast Transdanubia, along the Drava and south of the distribution area of the Vattya culture, must also be dated to the Koszider Period (for more detail and literature see P. Fischl–Kiss 2002, 135). This dating is based on the so-called Lovas type amphorae, which appear among others in many of the unpublished graves of the cemetery at Szeremle (P. Fischl–Kiss–Kulcsár 1999, 119, 63. kép 18–19) and as the containers of the Koszider Period bronze hoards of Lovas and Vukovar (Vinski 1958).<sup>31</sup> Beside an old find,<sup>32</sup> the chronological correlation of the Szeremle culture with late Vattya groups is now demonstrated by a recently found bowl from grave 156 of the Vattya cemetery at Csepel–Vízmu (Waterworks) (Reményi 2004, 336, Fig. 10 and this volume). To the east, Szeremle imports reached only the Vattina culture (Hänsel–Medović 1994, Abb. 9), and none are known from the tell settlements of the Great Hungarian Plain. Here we also have to mention that pit 21 of the settlement of the Szeremle culture at Siklós–Téglagyár contained a Litzen-decorated cup, while pit 35 yielded another Litzen-decorated fragment (Bándi–Kovács 1969–70, Fig. 3, Pl. XV:1).

With regard to the chronological relationship between the (southern) Incrusted Ware and the Szeremle cultures, both partial contemporaneity (Bándi–Kovács 1969–70, 97; 1970, 30–31; Bóna 1992a, 17: Mittlere Bronzezeit III) and complete consecutiveness (Kovács 1988b; P. Fischl–Kiss–Kulcsár 1999; P. Fischl–Kiss 2002, 134–35) have been suggested. Croatian scholars – although with some uncertainty – dated the two groups into successive phases (but with a different terminology: they use the term Szeremle culture for late Incrusted Ware, while the Szeremle material of the Hungarian terminology is called Dalj-Bjelo Brdo; for further literature see P. Fischl–Kiss 2002, 133–134). The reason for using a partially overlapping dating was that according to the first synthesis, the south Transdanubian Incrusted Ware culture had no role in the formation of the Szeremle culture; graves with south Transdanubian Incrusted Ware in the cemetery of Szeremle also seemed to support this interpretation (Bóna 1975, Taf. 252–258). Consecutiveness was suggested on the basis of the typological continuity. The differences observed in pottery manufacture were explained as a chronological phenomenon: the pottery of the Szeremle culture developed from late north and south Transdanubian Incrusted Ware (Proto- or Formative Szeremle) (Bándi–Kovács 1970, Abb. 4–7; Bóna–Nováki 1982, 69, note 21.; Kovács 1988b, 156–157; Honti 1994a, 10; P. Fischl–Kiss–Kulcsár 1999, 114). Further data are available from the tell settlement of Mošorin–Feudvar (Mozsor–Földvár), where late Transdanubian Incrusted Ware was found in the earlier layers of the Vattina culture, while Szeremle pottery was excavated from later occupation levels. B. Hänsel and P. Medović dated these later levels to the Pančevo–Omoljica phase (as defined by Garašanin) and the subsequent late Vattina Period (Hänsel–Medović 1994, Abb. 7–9). The interpretation of these relative chronological data is aggregated by the terminological diversity of the research on the Vattina culture and the selective publication of the material in the preliminary report (comp. P. Fischl–Kiss 2002, 134, note 15). In this situation, G. Vékony's warning about the evaluation of 'finds called Szeremle type' (Vékony 2000a, 14) seems to be justified.<sup>33</sup> If we disregard research traditions, we have to admit that

31 Based on the Lovas type vessels of the cemetery at Szeremle, the two hoards are assigned to the Szeremle culture by some researchers (Bándi–Kovács 1969–70, 107; Kovács 1975a, 314; Bándi–F. Petres–Maráz 1979, 101; Kovács 1988a, 157, Abb. 2; Bóna 1992b, 62). Serbian and Croatian researchers, however, connect the hoards either to the Vattina or the Belegiš culture, depending on their dating of the Lovas type amphorae (see P. Fischl–Kiss 2002, 132).

32 There is a Szeremle type bowl in the museum of Dunaújváros from the site of Sztálinváros–Radar. I would like to thank Jolán B. Horváth and Magdolna Vicze for allowing me to examine the unpublished vessel.

33 According to G. Vékony, the differences between the vessel shapes of the contemporary late Transdanubian Incrusted Ware and the Szeremle culture can be traced back to regional differences, caused by the northern expansion of 'Bubanj Hum III type material' (Vékony 2000a, 14). This latter material, however, is usually dated much earlier than the late Vattina phase (RBB1), and seems to be contemporary with earliest Vattina, Pitvaros, Nagyrév and Somogyvár–Vinkovci type material (see Garašanin 1983, 719; 1997, 147–148; P. Fischl–Kiss 2002, 129–130).

there are still no data at our disposal that would undoubtedly prove the consecutiveness of the Transdanubian Incrusted Ware and Szeremle cultures, since the majority of the mentioned material are stray finds. Closed assemblages, like the graves from Szeremle, the settlement material from Siklós–Téglagyár and the Vattina tell settlement of Feudvar, are all unpublished (the problem of dating has already been referred to by other scholars as well: Hänsel 1982, 31–32; Kovács 1984, 383). The chronological relationship between the Szeremle and Tumulus Grave cultures is similarly uncertain – see e.g. the published material of the two pits from the early phase of the settlement of Siklós–Téglagyár, or the stray finds from Bátmonostor (Bándi–Kovács 1969–70, 106; Kovács 1988b, Abb. 1.4–5). Consequently, it is impossible to decide whether the Litzen-decorated finds from Siklós should be assigned to Croatian Litzenkeramik, or the Belegiš culture, that had emerged as a consequence of the westwards moving elements of the Vattina culture. The interpretation of the Szeremle(?), Vattina and Litzen-decorated sherds from Novigrad na Savi (Majnarić–Pandžić 1984, Pl. 3) is similarly problematic.

A solution to the issue of contemporaneity may be solved by the publication of the old excavations at the cemetery of Dunaújváros–Dunadűlő. As shown by some assemblages of this large cemetery, early Tumulus Grave material was deposited in some of the latest graves of the Vattya culture (Bóna 1992a, 36; Vicze 2001, and this volume). If these graves can be dated to the Koszider Period (or to its end), that would support the assumption that in the above defined Phase 2 the late group of the Vattya culture coexisted with the early Tumulus Grave culture, i.e. it lived in the same phase as (and in the neighbourhood of?) the Mistelbach–Regelsbrunn type.<sup>34</sup>

The early Tumulus Grave settlement at Ordacsehi, within the territory of the Transdanubian Incrusted Ware culture, contradicts earlier theories about the peaceful coexistence of early Tumulus Grave groups west of the Raab–Marcal line and the late Incrusted Ware groups to the east (see above). If we date the early Tumulus Grave groups to the second phase of the Koszider Period on the basis of the data from the Vattya culture, the survival of the Incrusted Ware culture into this Period is only conceivable in northeast Transdanubia and along the Slovakian stretch of the Danube,<sup>35</sup> where this population – which already had established relationships with the Magyarád (Mad’arovce) culture – could have gradually adopted the vessel shapes of the locally developed Dolný Peter phase.<sup>36</sup> Of course, the survival of the population of the Incrusted Ware culture in central Transdanubia cannot be excluded, but until the discovery and publication of new finds we only know Koszider type hoards from this area, which do not contribute much to the cultural definition of the region (see Kovács 1977; 1984, 380; Bóna 1992a, 36; Kovács 1994a, 123, note 108; 1997, 299).

The aim of this article was to review the available data on the end of the Middle and the beginning of the Late Bronze Age in Hungary. First, it was attempted to define the less well-known western and southern neighbours of the Incrusted Ware culture based on new material; second, it tried to shed new light on Litzenkeramik, which has previously been only connected to the Tumulus Grave culture in the territory of Hungary.<sup>37</sup> Thus, Litzen-decorated finds from Transdanubia should be connected to these above-mentioned neighbouring groups, or the network of (borderland or microregional) relationships between these and the Incrusted Ware culture. The presence of the Mad’arovce–Veteřov–Böheimkirchen culture in the Middle Bronze Age (end of RBA2, beginning of BB1) of western Transdanubia and its

34 This chronology is supported by the assumed presence of the first Tumulus Grave groups in the Great Hungarian Plain before the end of the Koszider Period (see Trogmayer 1969; Bóna 1992a, 36; V. Szabó 1999, 63–64).

35 Accepting this chronology – and the uncertainties of dating mentioned above – the Szeremle culture can probably be dated to the same Period in southeast Transdanubia.

36 This cultural influence or population movement (Dolný Peter from the north, Mistelbach–Regelsbrunn from the northeast) has already been observed when explaining the differences between the Tumulus Grave materials of the Great Hungarian Plain and Transdanubia by connecting them to the differing materials of the Carpathian and Middle Danubian Tumulus Grave cultures.

37 The connection between the similarly decorated material from northwest Transdanubia and the Belegiš culture (Tolvadia type) was explained by G. Vékony by a ‘Tumulus Grave–Litzenkeramik migration’ across Transdanubia (Vékony 2000b, 180). If, however, we accept the existence of an autochthon Litzenkeramik group between the Drava and the Sava, even the ‘northwest-southeast axis of contacts’ reconstructed on the basis of the distribution of Litzen-decorated finds and Magyarád vessel shapes in Transdanubia and the appearance of the latter at the Lower Danube (Kovács 1984, 383; 1994a, 123), seems to have involved only shorter distances.

assumed local transformation into the early Tumulus Grave material called Mistelbach-Regelsbrunn type pushed the time of the assumed migration along the rivers Raab and Marcal in the early Tumulus Grave Period to an earlier phase. The above outlined theory may receive further support once the material of the settlement at Sárvár and other, still unavailable, finds from northeast and southeast Transdanubia are published.

### *Catalogue of Litzenkeramik sites*

#### Austria<sup>38</sup>

- Antau (Selegszántó): *stray find*, unpublished: Mossler 1943, 30, 167; Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 210; Vékony 2000b, 177.
- Baden-Königshöhle: *stray find*: Ladenbauer-Orel 1954, 90, Taf. III.3; Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 211; Hahnel 1988, 71; Vékony 2000b, 177.
- Bad Fischau-Malleiten: *stray find*, unpublished: Hautmann 1930, 118; 1932, 369; Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 211; Vékony 2000b, 177.
- Berndorf-Steinberg: *stray find*: Neugebauer 1976b, 22, Taf. 13.2.
- Böheimkirchen-Hochfeld: *settlement* of the Böheimkirchen group, from pits: Ulreich 1963, 80; Benkovsky-Pivovarová 1972, 210; Neugebauer 1976a, Taf. 6.1–2; 1976b, 21, Taf. 14.1–3; 1977a, Taf. 40.1 (Grube XXVIII), Taf. 65.1 (Grube „Schober A”), Taf. 65.7 (Grube „Schober B”), Taf. 67.1–3 (Grube S I), Taf. 74.1 (Grube S VIII), Taf. 84.1 (Grube S XIII), Taf. 86.1–2 (Grube S XIIIa); 1979b, Abb. 4; Vékony 2000b, 177.
- Brunn-St. Michael (Styria): *stray find*: Hebert 1987, 210, Abb. 217; Obereder 1998, 537; Lehner-Tiefengraber 2003, 652.
- Burg (Pinkaóvár): *stray finds from a settlement*, associated with Veteřov culture material: Mitschamärheim-Ohrenberger-Saria 1954, 188–189, 192, Taf. 12–13; Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 210; 1981a, 30; Vékony 2000b, 177.
- Deutschkreuz (Németszentkereszt): *pottery deposition* of the Tumulus Grave culture: Ruttkay 1966, Pl. IV:6–7; Benkovsky-Pivovarová 1972, 202–203, 210; 1981a, 30, 33; 1981c, Abb. 7.3,6; Vékony 2000b, 177.
- Drassburg-Taborac (Darufalva): *settlement*, associated with Veteřov culture material: Hautmann 1930, 118, Abb. 1, Abb. 3; Mossler 1943, 169–171, Taf. 33–41; Ohrenberger 1949, 407, Taf. XXXIX–XLI, XLII.1–5, XLIII.2–3, LI.17; Pittioni 1954, Abb. 170; Korošec 1957, T. V.1–2; Ulreich 1963, 73–88, Taf. I–II; Benkovsky-Pivovarová 1972, 201, Abb. 3; 1981a, 31, Taf. 3; Benkovsky-Pivovarová-Gömöri-Kaus 1982–83, 13; Vékony 2000b, 177.
- Dürnkrot: *stray finds* associated with Veteřov culture material: Franz 1926, 221, Abb. 2; Willvonseder 1937, 24; Mozsolics 1942, 34; Benkovsky-Pivovarová 1972, 210; Neugebauer 1976a, 24–25, Taf. 5.1–3; Benkovsky-Pivovarová-Gömöri-Kaus 1982–83, 14; Neugebauer 1994b, Abb. 77.1 (site called Jedenspeigen); Hahnel 1988, 72; Vékony 2000b, 177.
- Eisenstadt-Burgstall (Kismarton): Ranseder 1990, Abb. 15.
- Gainfarn-Merkensteiner Höhle: *stray find*, unpublished: Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 211; Vékony 2000b, 177.
- Girm: *stray find*, unpublished: Hahnel 1988, 72; Ranseder 1990, Abb. 15.

38 Most of the sites around Salzburg are now assigned to the Corded Ware, and not Litzenkeramik (Benkovsky-Pivovarová 1981a, 29, Anm. 9, Anm. 11; Hahnel 1988, 72): Grossen Buchberg bei Alland (Kechler 1974, 37, 49, Taf. XI.9,11), Morzg–Hellbrunnerberg (Pittioni 1954, 242; Benkovsky-Pivovarová 1972, 211; Hell 1974, 3, Abb. 4.2; Vékony 2000b, 177), Bischofshofen–Sinnhubschlössl (Hell 1961, 5–7, 13, Abb. 4.14; Benkovsky-Pivovarová 1972, 211; Moosleitner 1984, 9–11, Abb. 2.5; Vékony 2000b, 177). The cultural affiliation of the finds from Hügel Breitegg in Tyrol (see Catalogue), published without illustration, is also questionable. This paper was written in 2005, with small corrections in 2013. For more recent summary of the Litzenkeramik research see Kiss 2012.



- Golling/Salzach–St. Nikolaus (vicinity of Salzburg): *stray find*: Hell 1944–50, 173–175, Abb. 1–2; Korošec 1957, T. V.4; Benkovsky-Pivovarová 1972, 211; Benkovsky-Pivovarová 1981a, 33; Vékony 2000b, 177.
- Grillenbergr: *stray find*, unpublished: Ulreich 1963, 81; Benkovsky-Pivovarová 1972, 211; Vékony 2000b, 177.
- Grosshöflein–Föllik (Nagyhöflány): *settlement and grave*: Tömördy 1936, 77; Tömördy 1939, 101–104, Abb. 1; Mozsolics 1942, 34, note 107., Fig. 8.; Amschler 1949; Ohrenberger 1949, 407, Taf. XVIII, Taf. XXII.1–9; Pittioni 1954, 246, Abb. 172; Benkovsky-Pivovarová 1972, 202, 211; 1977, Abb. 1–2; 1981a, 30; Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 8–12, Fig. 2–5.; Vékony 2000b, 177.
- Grossmutschen (Sopronudvard): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 30, Anm. 12.
- Grosswarasdorf (Szabadbáránd): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 30, Anm. 12.
- Guntramsdorf: *settlement and pottery deposition* associated with Veteřov culture material: Pittioni–Wurth 1935, 159–164, Taf. 1; Pittioni 1954, Abb. 169.2–6; Korošec 1957, T. V.3; Benkovsky-Pivovarová 1972, 201, 211, Abb. 2; Neugebauer 1977b, Taf. 3; Neugebauer 1978, 192–196, Abb. 6–7; Vékony 2000b, 177.
- Hagenthale–St. Andrä: *stray find*, associated with the sherds of the Böheimkirchen group; unpublished: Oberleitner 1951–55, 35; Hahnel 1988, 72.
- Hausstein–Grünbach (am Schneeberg): *stray finds from settlement*: Daim–Ruttkay 1981, 40–41, 43, Abb. 12.1–2.
- Hügel Breitegg (Tyrol): *stray find*, unpublished: Rodriguez 1982, 13; Hahnel 1988, 72.
- Maierisdorf: *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 30, Anm. 11.
- Mattersburg (Nagymarton): *pithos grave?*: large vessel with bones of a juv. person: Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 13, Fig. 6.; Benkovsky-Pivovarová 1986; Hahnel 1988, 72; Vékony 2000b, 177.
- Mixnitz (Styria): *stray find*: Obereder 1998, 537; Lehner–Tiefengraber 2003, 652.
- Mödling: *stray find*: Hautmann 1932, 69; Benkovsky-Pivovarová 1972, 211; Vékony 2000b, 177.
- Müllendorf (Százarvám): from the *settlement* of the Mistelbach–Regelsbrunn type: Ranseder 1990, Taf. 28.1–6.
- Nikitsch (Füles): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 30, Anm. 11.
- Oberpullendorf (Felsőpulya): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 30, Anm. 11.
- Oberpukla–Halbenrain (Styria): *stray find*: Lehner–Tiefengraber 2003, 652, Abb. 629–631.
- Perchtoldsdorf–Hochberg: *stray find*: Mossler 1943, 167; Benkovsky-Pivovarová 1972, 211; Vékony 2000b, 177.
- Pitten: *cemetery* of the Tumulus Grave culture (graves 41 and 116): Benkovsky-Pivovarová 1981a, 30; Neugebauer 1979b, 50; Hampl–Kechler–Benkovsky-Pivovarová 1981, Taf. 205.12–13, Taf. 218.12; Benkovsky-Pivovarová 1992, 343; Neugebauer 1994b, Abb. 76.8; Kovács 1994a, 123.
- Pötsching (Pecsényéd): *stray find*: Ohrenberger 1949, 407, Taf. LIX.3; Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 211; Vékony 2000b, 177.
- Purbach (Feketeváros): from the *settlement* of the Mistelbach–Regelsbrunn type: Ranseder 1990, Taf. 14.3.
- Raababerg bei Graz (Styria): *stray find*: Obereder 1989, Taf. 48; Lehner–Tiefengraber 2003, 652.
- Raiding (Doborján): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 30; Ranseder 1990, Abb. 15.
- Riegersburg–Burgberg (Styria): *stray find*: Hebert 1991, 2, 6; Lippert 1999, Karte 2, Tab. 3.73.
- Sauerbrunn (Savanyúkút): *settlement*: Ohrenberger 1949, 407; Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 211; 1981a, 30, Anm. 13; Kaus 1998, 83–86, Abb. 4–5; Vékony 2000b, 177.
- Sigless (Siklós): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, Anm. 8.
- St. Margarethen–Strappelkogel (Carinthia): *stray find*, unpublished: Mossler 1943, 188, Anm. 3; Ulreich 1963, 88; Benkovsky-Pivovarová 1972, 211; Vékony 2000b, 177.

Steinbrunn–Zillingtal: *settlement*, unpublished: Kaus 1987, 205.  
 Waidendorf–Buhuberg: *settlement* of the Veteřov culture: Hahnel 1988, 71, Taf. 51.7, Taf. 82.7,10, Taf. 98.20.  
 Wildon–Schlossberg (Styria): *settlement*, unpublished: Kramer 1989, 28–30; Ranseder 1990, Abb. 15; Kramer 1996, 9; Obereder 1998, 537; Tiefengraber 2001, 80; Lehner–Tiefengraber 2003, 652.  
 Würflach: *stray find*: Haider–Neugebauer 1978, 268–269, Abb. 167–168.  
 Zemendorf (Zemenye): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 30, Anm. 12.

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Abrahám (Ábrahám): *stray find*: Bartík–Štrbík 1992, 21, Abb. 1.3; Ožďani 1998, Abb. 1.  
 Bajč–Vlkanovo (Bajcs): *settlement* (feature 39/82): Nevizánsky–Točík 1983, 158; Ožďani 1998, 56, Abb. 1.  
 Bánov (Bánkeszi): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, 35, Anm. 3; Ožďani 1998, Abb. 1.  
 Blatné (Pozsonysárfő): *stray find*, with the settlement material of the Magyarád and Tumulus Grave cultures: Bartík–Štrbík 1993, 23, Abb. 2.6; Ožďani 1998, Abb. 1.  
 Bučany (Bucsány): unpublished, Ožďani 1998, Abb. 1.  
 Budmerice (Gidrafa): *settlement*, Dolný Peter horizon: Kuzma 2001, 96–101, Abb. 75; Ožďani 1998, Abb. 1.  
 Cífer: Ožďani 1998, Abb. 1.  
 Dolný Peter (Alsószeptpéter): Dolný Peter horizon, *cemetery* (from inhumation graves 9 and 39): Dušek 1969, 56, 72, Abb. 6.13,13a; Abb. 15.4,4a; Benkovsky-Pivovarová 1981a, Anm. 3; Ožďani 1998, 56, Abb. 1; Vékony 2000b, 177.  
 Holiaré (Geller/Alsógellér): *stray finds*: Barta–Willvonseder 1934, 8, Abb. 2.1; Pittioni–Wurth 1935, 161; Benkovsky-Pivovarová 1981a, Anm. 3; Ožďani 1998, Abb. 1.  
 Ivanka pri Nitre (Nyitraivánka): *stray find*, unpublished: Benkovsky-Pivovarová 1981a, Anm. 3; Ožďani 1998, Abb. 1.  
 Iža (Izsa): among the *stray finds* of the *settlement* of the north Transdanubian Incrusted Ware culture (trench VIII, 75–95 cm depth): Nemejcová-Pavúková 1968, 357, Abb. 4.1; V. Vadász–Vékony 1978, note 90.; Benkovsky-Pivovarová 1981a, 35, Anm. 3; Ožďani 1998, Abb. 1; Vékony 2000b, 177.  
 Marcelová (Marcelháza): *stray finds*, unpublished: Benkovsky-Pivovarová 1981a, Anm. 3; Ožďani 1998, Abb. 1.  
 Mierovo (Béke): unpublished, Ožďani 1998, Abb. 1.  
 Mužla (Muzsla)–Čenkov: from the *settlement* of the Dolný Peter horizon (feature 66: pottery deposition of sacrificial pit?): Kuzma–Hanuliak 1990, 125, Abb. 5; Benkovsky-Pivovarová 1992, 343, Abb. 2; Ožďani 1998, 55–56, Abb. 1; Vékony 2000b, 177.  
 Nitra (Nyitra): Ožďani 1998, Abb. 1.  
 Nižna Myšľa (Alsómislye)–Várhegy: from the *settlement* of the Füzesabony (Otomani) culture (feature 77/1981): Ožďani 1998, 51, 55, Abb. 4.  
 Sikenica (Nagypeszek): *stray find* with the settlement material of the Magyarád and Tumulus Grave cultures: Novotný 1968, 27, Taf. 8.6; Benkovsky-Pivovarová 1981a, Anm. 3; Ožďani 1998, Abb. 1.  
 Štúrovo (Párkány): from the *settlement* of the Tumulus Grave culture (feature 10/84 grave with the inhumation of two children; Litzen-decorated vessels from two pits): Ožďani 1984, 182–183, Obr. 66–67; Benkovsky-Pivovarová 1992, 343, Abb. 1; Ožďani 1998, 55, Abb. 1; Vékony 2000b, 177.  
 Včelince (Méhi)–Lászlófala: from the *settlement* layer of the late Füzesabony (Otomani) culture: Ožďani 1998, 51, 56, Abb. 3.  
 Veľký Grob (Magyargurab): Ožďani 1998, Abb. 1.  
 Veselé (Vígvár): *settlement* of the Magyarád culture (pit 103 S): Točík 1964, Abb. 22.5; Benkovsky-Pivovarová 1972, Abb. 5; 1981a, Anm. 3; Ožďani 1998, Abb. 1; Vékony 2000b, 177.  
 Vištuk (Kárpáthalas): *stray find*: Bartík–Štrbík 1992, 21, Abb. 1.1–2; Ožďani 1998, Abb. 1.

Voderady (Vedrőd): unpublished, Ožďani 1998, Abb. 1.  
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- Bag: *stray find*, from the material of the Tumulus Grave culture, unpublished: Kovács 1984, 383.
- Csolnok: *stray find*, with the material of the Tumulus Grave culture: Horváth–Kelemen–Torma 1979, 53–54, Pl. 16. 13–14; Benkovsky-Pivovarová 1981a, 35, Anm. 2; Vékony 1988, 74; Ilon 1998–99, 257; Vékony 2000b, 177.
- Balatonmagyaród–Hídvégpuszta: from a pit of the *settlement* of the Kisapostag culture (rescue excavation of the Kis-Balaton program: Honti 1996, 53), in association with sherds of late Kisapostag – early Transdanubian Incrusted Ware, unpublished.
- Dunaújváros–Kosziderpadlás: *stray find* from the upper layer of the settlement of the Vátya culture, unpublished; Bóna 1992a, 36.
- Fertőboz–Gradinahegy: Litzen-decorated(?) fragment from the excavation of the rampart of the *settlement* of the Wieselburg culture, unpublished: Bándi 1972, 42; Benkovsky-Pivovarová 1981a, 35, Anm. 2; Sopron inv. nr. 64.84.1–21.
- Fertőrákos: unpublished: Bándi 1967, 28.
- Gödöllő: from the material of the Tumulus Grave culture, unpublished: Kovács 1975a, 313, note 95. (MNM inv. nr. 71.15.1–2); Vékony 2000b, 177.
- Győr–Repülőtér: *stray find*, unpublished: Bándi 1967, 28; Bándi 1972, 42; XJM inv. nr. 53.318.1.
- Igar–Vámpuszta–Galástya: from the *settlement* of the Vátya culture (pit I/O): Kovács 1982, Abb. 5.
- Kaposvár: from the *settlement* of the north Transdanubian Incrusted Ware (excavated by Ecsedy I.), unpublished: RRM inv. nr. 75.79.1–2.
- Kaposvár–Route 61/site 1: from the *settlement* of the north Transdanubian Incrusted Ware culture (from pits 322 and 343), unpublished: Fig. 3:7–13.
- Kesztlőc–TSZ major: *stray find*, unpublished: Horváth–Kelemen–Torma 1979, 239, 9/12. lh.; Benkovsky-Pivovarová 1981a, Anm. 2; Ilon 1998–99, 257.
- Komlósd: *stray find*, in association with Incrusted Ware: Honti 1994a, Abb. 3.14, Abb. 9.3–6,8.
- Koronc–Bábota (area D): *stray find*: Mithay–Bottyán 1940, 183; Mithay 1942, 7, Pls. III. 8–10, IV. 1; Bándi 1967, 28; 1972, 42; Torma 1972, 24; Benkovsky-Pivovarová 1981a, Anm. 2; Vékony 2000b, 177; Ilon 1998–99.
- Kölesd–Csont-hegy: *stray find*, from the *settlement* of the Incrusted Ware culture: Wosinsky 1904, Pl. LVIII. t. 5; Bándi–Kovács 1969–70, 107, note 32.; Benkovsky-Pivovarová 1981a, Anm. 2; Vékony 2000b, 177.
- Kőszeg: *stray find*, unpublished: Hautmann 1930; Patay 1938, 78; Bándi 1967, 28; Benkovsky-Pivovarová 1981a, Anm. 2; Vékony 2000b, 177.
- Ménfőcsanak: *urn grave* from the cemetery of the Dolný Peter horizon: Kovács 1975a, 313; Benkovsky-Pivovarová 1981a, Anm. 2; Kovács 1997, 297–299, Abb. 1.1–4; Vékony 2000b, 177; Ilon 1998–99, 256, Fig. 10.; Egry 2004, Fig. 8.
- Mérgeš–Csepregi domb: *stray find*, unpublished: Bándi 1972, 42; Benkovsky-Pivovarová 1981a, Anm. 2; XJM inv. nr. 63.35.1–2.
- Mosonszentmiklós–Jánosházpuszta: from the *cemetery* of the Incrusted Ware culture (grave 26): Uzsoki 1959, 66, Pl. IV. 7; Uzsoki 1963, 83, Pl. 14. 3; Kiss 2002, 489, Anm. 60.<sup>40</sup>

39 Most of the Litzenkeramik sites on map 1 by Bándi (1972, 42) are now assigned to the Kisapostag culture (e.g. Adorjánháza, Balatonyörök, Bezi, Borsosgyőr, Mórchida, Örvényes, Románd, Somló, Vörs–Nyíres sziget; see Torma 1972, 22, 24; Éri *et al.* 1969, 153–154, Pl. 7. 11; Dax *et al.* 1972, 70, 134–137, 223; Honti 1996, 53–55). Bándi (1967, 28) also mentioned the site of Szakony–Kavicsbánya, but the published material contains neither Kisapostag, nor Litzenkeramik finds (Ilon 1996, 25, Pl. 4. 7–10; Pl. 5.). The stray vessel from Bük, previously also assigned to Litzenkeramik (Patay 1938, 78; Bándi 1967, 28; Benkovsky-Pivovarová 1981a, 35, Anm. 2; Ilon 1996, 27, Pl. 7. 1; Vékony 2000b, 177), belongs to the Alpine group of the Ljubljana culture based on its shape and decoration (see Parzinger 1983, Taf. 6.24; Govedarica 1988–89, Pl. 1). Still questionable, but probably Kisapostag sites are Esztergályhorváti–Alsóbárándpuszta and Külsővat. The above-mentioned sites were omitted from the Catalogue.

40 András Figler drew my attention to the erroneous interpretation of the two-handled vessel of the Gáta–Wieselburg culture; I would like to thank him for his help. See also Benkovsky-Pivovarová 1972, 208; 1981a, Anm. 2 (Jánosháza).

- Pomáz–Új-dűlő: *stray find*, in association with the finds of the Tumulus Grave culture: Dinnyés *et al.* 1986, 190–191, Site 23/7, Pl. 15. 1–3,6.
- Rábacsécsény–Fudipusztá: *stray find*: Mithay 1942, 7, Pl. III. 8; Bándi 1967, 28; Torma 1972, 24; Benkovsky-Pivovarová 1981a, 35, Anm. 2; Ilon 1998–99; Vékony 2000b, 177.
- Sárvár–Móka and –Szaput (Route 84): from the *settlement* of the Veteřov culture, unpublished.
- Siklós–2. téglagyár: from the *cemetery* of the Incrusted Ware culture (grave 3): Bándi–Zoffmann 1966, 51–52, Pls. XII. 3–7; XIII. 1–7.; Bándi–F. Petres–Maráz 1979, 102; Kiss 2004, Fig. 3. 4–10.
- Siklós–2. téglagyár: from the *settlement* of the Szeremle and Tumulus Grave cultures (pits 21 and 35): Bándi–Kovács 1969–70, Fig. 3, Pl. XV. 1; Benkovsky-Pivovarová 1981a, 35, Anm. 2; Kovács 1984, 383; Vékony 2000b, 177.
- Somogyvár–Kupavárhegy: from the *settlement* of the Incrusted Ware culture: Honti 1994a, Abb. 4.4, Abb. 7.6, Abb. 9.1–2; Vékony 2000b, 177.
- Sopron: *inhumation graves*: Benkovsky-Pivovarová 1981a, 35, Anm. 2; Kirchner dűlő: 3 inhumation graves: Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 5–6, Fig. 1. 3–4; Vékony 2000b, 177; Sopron–Városi pusztá: Patay 1938, 78, Pl. X. 5; Bándi 1967, 28; Torma 1972, 24; Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 6, Fig. 1. 1; Vékony 2000b, 177; vicinity of Sopron: Benkovsky-Pivovarová–Gömöri–Kaus 1982–83, 6–8, Fig. 1. 2.
- Százalombatta–Földvár: *stray find* from the upper layer of the settlement of the Vátya culture; unpublished (personal communication with I. Poroszlai and M. Vicze).
- Székesfehérvár–Nyúldomb: *stray find* from the material of the Tumulus Grave culture, unpublished: Kovács 1984, 383.
- Süttő–Nagysáncetető: from the *settlement* of the Incrusted Ware culture (from the uppermost settlement layer): Vékony 2000b, 179–180.
- Tata–Ferencmajor (Szomód)<sup>41</sup>: *settlement*: V. Vadász–Vékony 1978, 61, note 90.; Vékony 1988, 74; Vékony 2000b, 177.
- Tiszafüred–Majoroshalom: from the *cemetery* of the Tumulus Grave culture (grave 58): Kovács 1975b, 13, Pl. 5.3; Kovács 1984, 383; Vékony 2000b, 177.
- Vörs–Kerékerdő: from the *settlement* of the Incrusted Ware culture (pits 44, 224 and 176): Honti 1994a, 8–9, Honti 1994b, 173–175, Abb. 2.2, Abb. 8.4; Vékony 2000b, 177.
- Zalaegerszeg–Ságod–Bekeháza: from the *settlement* of the Veteřov culture (pits 7 and 22): Kvassy–Kiss–Bondár 2004, 132–133, Fig. 18. 8–12; Fig. 2:11–18.
- Zamárdi: *stray find*: Piller collection, RRM inv. nr. 74. 270.1; Fig. 3:14.<sup>42</sup>

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- Brist: *stray find*: Martinec 2002, 279.
- Erdut–Veliki Varod: *stray find*, in association with sherds of the Syrmian-Slavonian group of the Vattina culture and of the Szeremle culture (Dalj-Bjelo Brdo group): Šimić 1993, 132, Sl. 5.2; Martinec 2002, 278.
- Dubovec: unpublished: Marković 1988–89, Abb. 4.
- Gaćište: *stray find*, in association with Transdanubian Incrusted Ware; unpublished: Šimić 2000, 105, 118; Martinec 2002, 278.
- Goričan: *stray find*, unpublished: Marković 1988–89, Abb. 4.

41 Not identical with the Kisapostag type cup published by Patay (1938, Pl. IV. 6; see also Korošec 1957, T. 5.5; Foltiny 1988, Abb. 1.3) from Szomód or Ágostyán!

42 We know an Incrusted Ware culture cemetery with at least 20 graves from Zamárdi (for the publication of one grave see Kovács 1994a, Fig. 1–2.), but no data is available regarding its possible connection with the Litzen-decorated cup.

43 Litzen-decorated pottery assigned to the Belegiš culture (e.g. Dalj–Livadice, Vinkovci) are omitted in the Catalogue. See also note 20.



- Grabrovac (Kuševac): *stray finds and settlement pit* in association with south Transdanubian Incrusted Ware: Pavlović–Bojčić 1981, 27–28, T. XVI.3–8, T. XVII; Vinski-Gasparini 1983, 490; Pavlović 1984, 53–60, Sl. 3.4–9, Pl. 4, Pl. 5.1–4; Marković 1984, 22; Šimić 2000, 119; Martinec 2002, 287–294, T. I–XI.
- Gradac–Pleternicki: *stray find*, associated with Transdanubian Incrusted Ware: Majnarić-Pandžić 1976a, 69, Sl. 2; 1976b, 98; Vinski-Gasparini 1983, 489, T. LXX.15–16; Šimić 2000, 118; Vékony 2000b, 177; Martinec 2002, 278.
- Gušće: *stray find*: Majnarić-Pandžić 1976a, 69, Tab. 1.2, Tab. 8.3; 1976b, 97, Taf. II.2; Vinski-Gasparini 1983, 488, T. LXX.8; Martinec 2002, 278.
- Jamina Sredi pećina (Island Cres): *stray find*, from a cave: Petrić 1980, 29, T. XVI.1; Martinec 2002, 279.
- Klisa–Ekonomija: *stray finds*, associated with sherds of the Szeremle culture (or Dalj–Bjelo Brdo group): Šimić 1993, 132, Pl. 5.1; Martinec 2002, 278.
- Koprivnica–Cetine III: *settlement*, from a pit with north Transdanubian Incrusted Ware: Marković 1986a, T. 3; 1986b, 93, Pl. 52–53; 1990, Pl. 3.5–7; 1993, 123; 1993–94, 109, T. 3, T. 4.1; Šimić 2000, 137.
- Koprivnički Ivanec–Piškornica: *settlement*, from a pit with north Transdanubian Incrusted Ware: Marković 1981a, 29–30, T. XVIII; 1981b, 196–198, 213, Pl. 4, T. 6–7; 1982a, 38–39, T. 18.2; 1982b, 245–248, Pl. 5–6, T. 4–6; Vinski-Gasparini 1983, 490; Marković 1984, 22–24; 1986b, 95; 1990, Pl. 3.8–11; 1993–94, 109, T. 4.3; T. 9.1–3; Šimić 2000, 137.
- Mačkova špilja (Velika pećina): *stray finds*, from a cave: Šimek 1975, T. III; Vinski-Gasparini 1983, 488, T. LXX.7; Marković 1984, 22–24; Martinec 2002, 277.
- Novigrad na Savi: *stray find*, associated with sherds of the Vattina and Szeremle cultures: Majnarić-Pandžić 1976a, 69; 1977, 35–37, T. 18–19; Vinski-Gasparini 1983, 489; Majnarić-Pandžić 1984, 66, Pl. 3; Lozuk 1993, 33, Pl. 4; Šimić 2000, 120; Vékony 2000b, 177; Martinec 2002, 278.
- Obrovac–Žvalji: from the barrow of the Cetina culture (Barrow 1), associated with a dagger with decorated blade and solid hilt: Marović–Čović 1983, 198, T. XXXIV.1–7; Marović 1984, 37, Pl. 14; Martinec 2002, 278–279.
- Pavlovec Ravenski: *stray find*, unpublished: Marković 1984, 23; Martinec 2002, 277.
- Podgorač: *settlement*, from a pit with south Transdanubian Incrusted Ware: Majnarić-Pandžić 1973, 25–26, T. XII–XIII; 1974, 39–41, T. XX; 1976a, 70, Pl. 3–4, Tab. 1.1, Tab. 2–7; 1976b, 98–100, Taf. I, III–V; 1977, 35–37; Benkovsky-Pivovarová 1981a, 29, 32; Vinski-Gasparini 1983, 489, T. LXX.9–14; Majnarić-Pandžić 1984, 70, Pl. 3–4, Tab. 1.1, Tab. 2–7, Tab. 8.1–2, Tab. 9–14; Marković 1984, 22, S. 5.1–4; Vékony 2000b, 177; Martinec 2002, 278.
- Štrbinci: *stray find*: Marković 1984, 22–24, Pl. 5.5; Vinski-Gasparini 1983, 490; Martinec 2002, 277.
- Sv. Petar Ludbreški–Ivanac: *stray find*: Marković 1986b, 106; 1986c, 8–9, T. 1.5–6; Martinec 2002, 277.
- Torčec: *stray find*: Marković 1997, T. 2.2–6; Martinec 2002, 277.
- Veliki Kalnik–Stari grad: *stray find*: Homen 1981, T. I.2; Marković 1984, 22–24; Martinec 2002, 277.
- Vratnec: *stray find*, associated with earlier south Transdanubian Incrusted Ware: Marković 1997, 34, T.1, T.2.1.
- Višnjica: *stray find*: Majnarić-Pandžić 1976a, 69; 1976b, 98; Vékony 2000b, 177.
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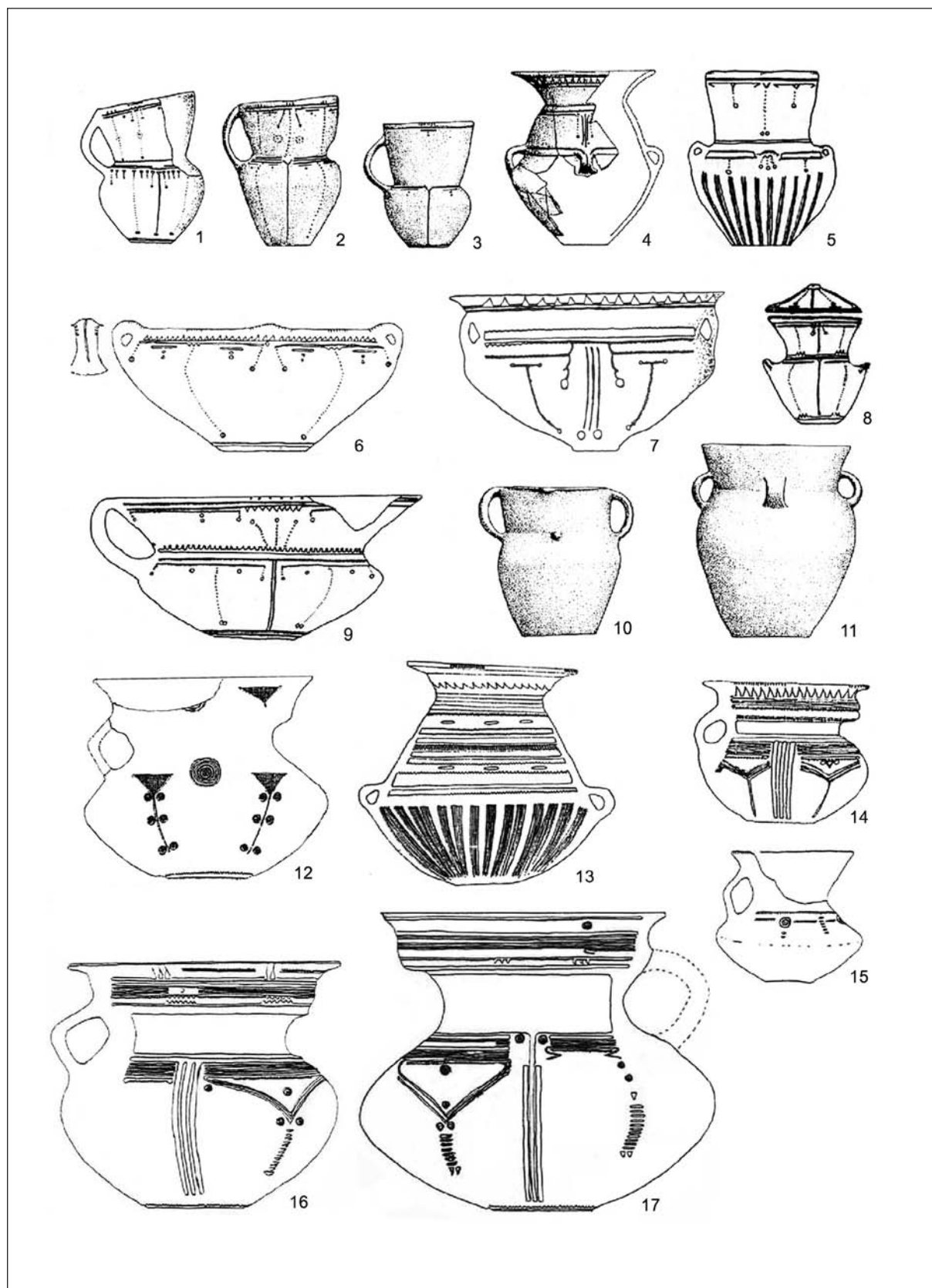


Fig. 1. 1, 6: Veszprém-Kossuth L. u.; 2–4, 10–11: Veszprém-Bajcsy-Zsilinszky u. (after Kovács 1994a);  
5, 8–9: Balatongyörök-Becemajor; 7: Papkeszi-Felsőmajor; 12–13: Siklós-Téglagyár, Grave 3; 14: Siklós-Kórház;  
15–16: Szébeny-Paperd; 17: Lánycsók



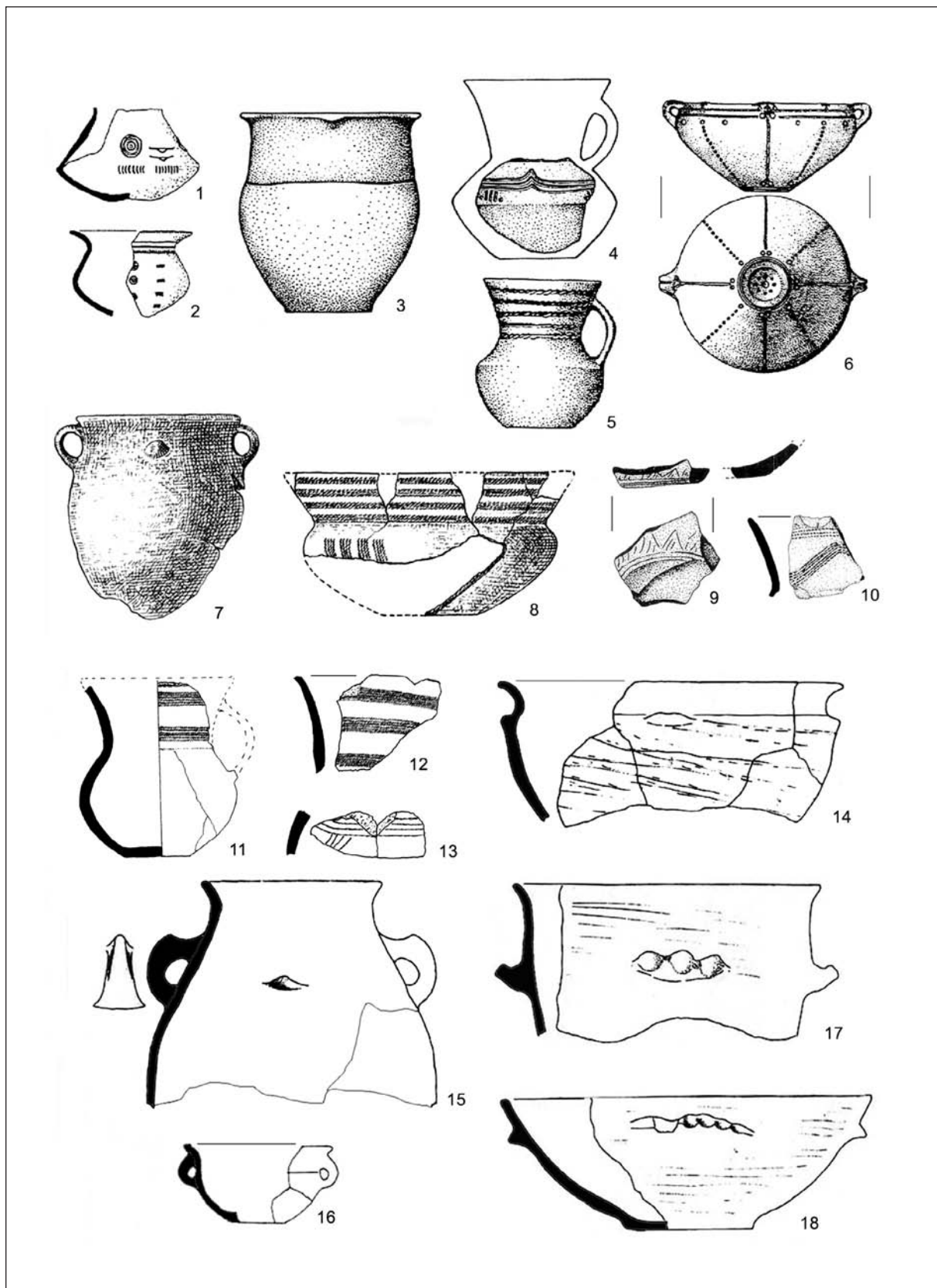


Fig. 2. 1–2: Túrkeve-Terehalom (1: Level II/A, 2: 0–50 cm); 3–6: Igar-Vámpusztá-Galástya, Pit I/O (after Kovács 1982); 7–8: Drassburg-Taborac, Pit I. (after Benkovsky-Pivovarová 1972); 9–10: Rádóckölked (after Ilon-Rasztovics 2000); 11–18: Zalaegerszeg-Ságod-Bekeháza, Pit 7.

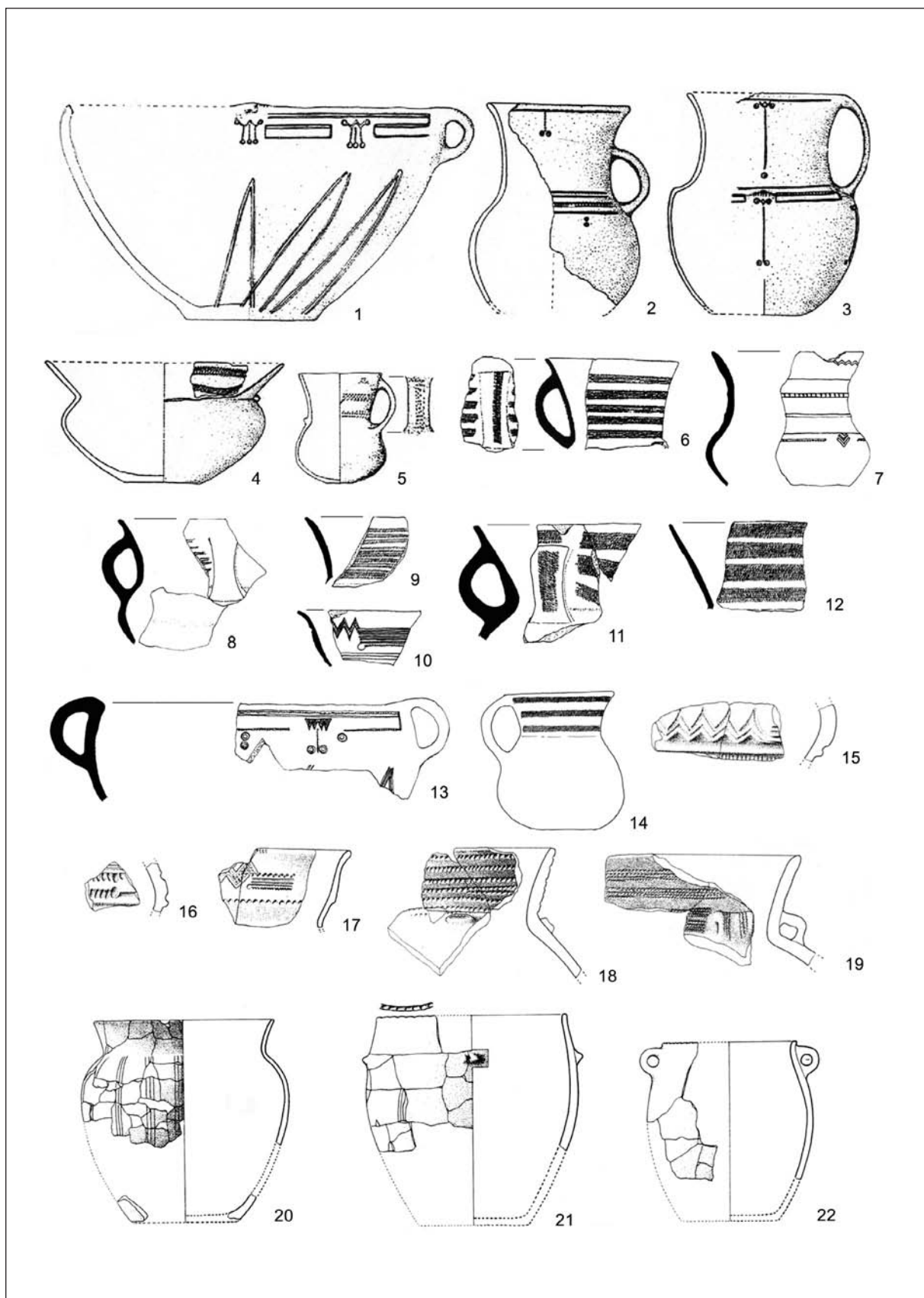


Fig. 3. 1–5: Vörs-Kerékerdő (1–4: Obj. 224, 5: Obj. 44); 6: Siklós-Téglagyár, Grave 3; 7–13: Kaposvár-Route 61/Site 1 (7–10: Obj. 322, 11–13: Obj. 343); 14: Zamárdi; 15–22: Grabrovac (after Martinec 2002)



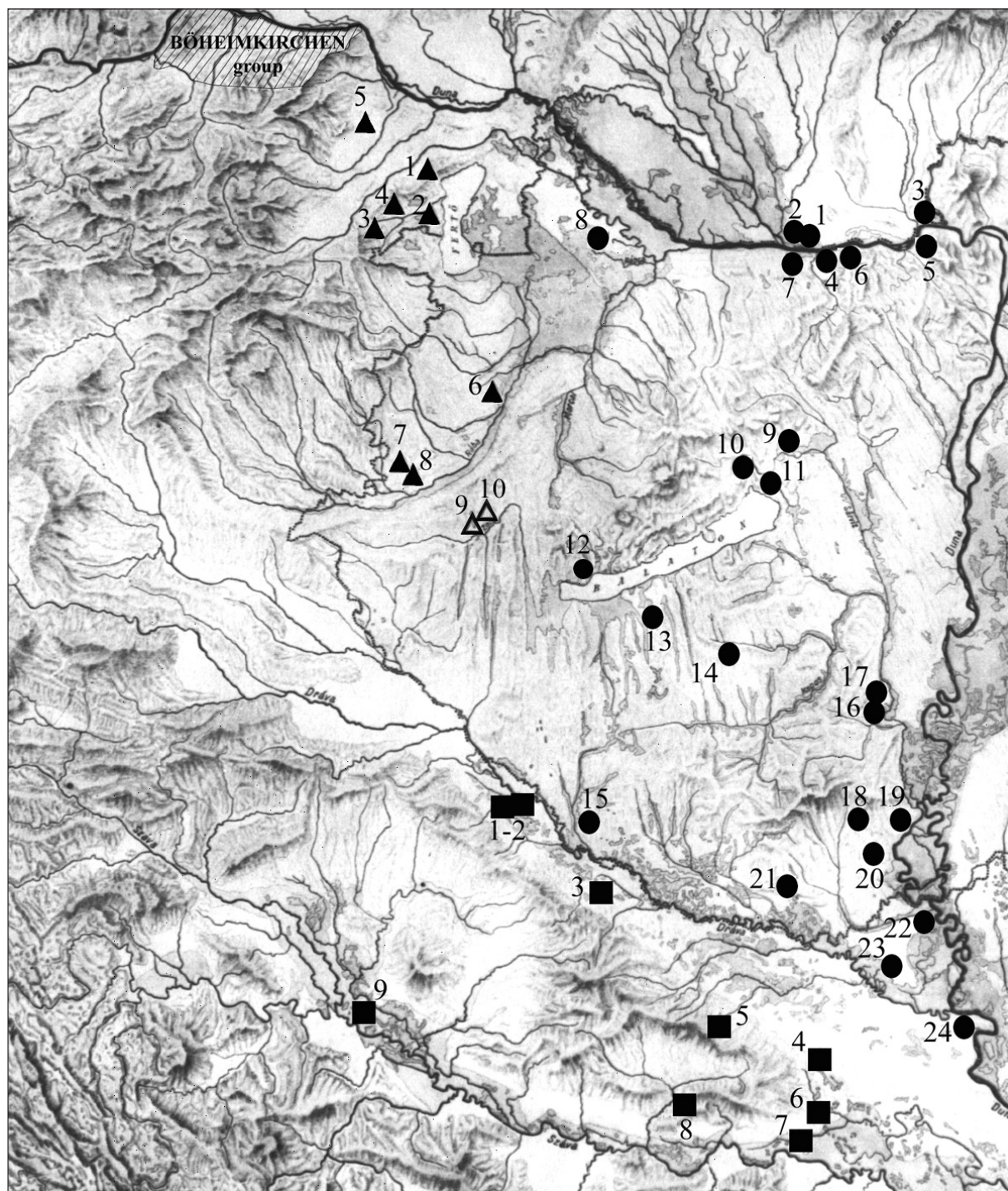


Fig. 4. The cultures of the middle and western part of Transdanubia in the Koszider period

- ▲ sites of the Veteřov culture in Burgenland and Western-Hungary: 1. Mannersdorf, 2. Oggau, 3. Draßburg, 4. Grosshöflein, 5. Guntramsdorf, 6. Sárvár, 7. Rádóckölked, 8. Nagymizdó,
- △ sites probably connected to the Veteřov culture: 9. Zalaegerszeg-Ságod-Bekeháza, 10. Zalaszentiván-Kisfaludi-hegy;
- sites of the late phase of the Transdanubian Incrusted Pottery: 1. Patince, 2. Iža, 3. Helemba, 4. Dunaalmás, 5. Esztergom, 6. Süttő, 7. Szőny-Nagymagtár, 8. Mosonszentmiklós, 9. Csór, 10. Veszprém, 11. Papkeszi, 12. Balatongyörök, 13. Somogyvár, 14. Somogyacsa, 15. Komlósd, 16. Hanc, 17. Medina, 18. Szebény, 19. Lánycsók, 20. Dunaszekcső, 21. Siklós, 22. Batina, 23. Darda, 24. Dalj;
- sites of the Litzenkeramik group in Croatia: 1. Koprivnički-Ivanec, 2. Koprivnica-Cerine III, 3. Gačiste, 4. Podgorač, 5. Vučjak, 6. Grabovac, 7. Novigrad na Savi, 8. Gradac Pleternički, 9. Gušče

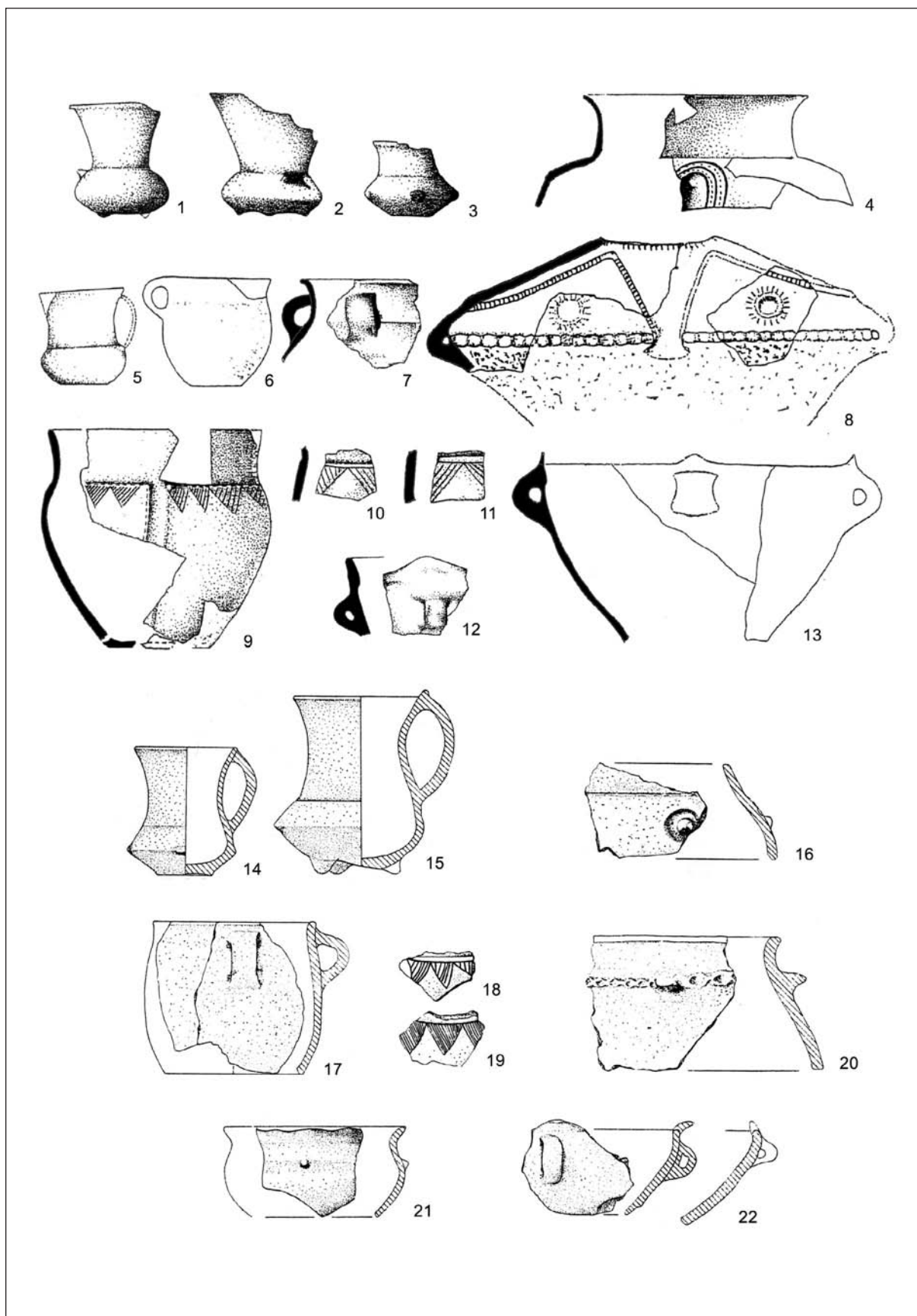


Fig. 5. 1–13: Ordacsehi-Bugaszeg; 14–22: Mannersdorf (after Neugebauer 1980, Abb. 27–28)